

**EXPLORING THE LIFE SKILLS COMPONENTS IN THE
SECONDARY SCHOOL SYLLABUS: AN ANALYTICAL STUDY**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY**

L.K LALBIAKFELI

MZU REGISTRATION NO : 1500974

Ph. D REGISTRATION NO : MZU/Ph.D./2117 of 06.09.2022



DEPARTMENT OF EDUCATION

SCHOOL OF EDUCATION

FEBRUARY, 2026

**EXPLORING THE LIFE SKILLS COMPONENTS IN THE SECONDARY
SCHOOL SYLLABUS: AN ANALYTICAL STUDY**

BY

L.K. LALBIAKFELI

Department of Education

DR. MUTTU VEMULA

Supervisor

Submitted

**In partial fulfillment of the requirement of the Degree of Doctor of Philosophy in
Education, Mizoram University, Aizawl.**



MIZORAM UNIVERSITY

DEPARTMENT OF EDUCATION

TANHRIL – AIZAWL – 796004

A Central University Established by an Act of Parliament

Aggregated 'A' by NAAC in 2019 (2nd Cycle)

Dr. Muttu Vemula

Assistant Professor

M.Sc(Psychology); M.Sc(Maths); M.Ed; Ph.D

School of Education

drmuttuedu@gmail.com

Contact : 9908802204

CERTIFICATE

This is to certify that L.K Lalbiakfeli, Ph.D. Scholar, Department of Education, Mizoram University, Registration. No. MZU/Ph.D./2117 of 06.09.2022 has written her thesis entitled, 'Exploring the Life Skills Components in the Secondary School Syllabus: An Analytical Study' under my guidance and supervision.

In preparing the thesis, L.K Lalbiakfeli has complied with all the requirements as laid down in the Ph.D. Regulations of Mizoram University. The thesis is the original work of the scholar and has not been submitted for any degree to other University. (Dr. MUTTU VEMULA) Supervisor

(Dr. Muttu Vemula)

Supervisor

MIZORAM UNIVERSITY
AIZAWL : MIZORAM – 796004

Month : February

Year : 2026

DECLARATION

I, **L.K Lalbiakfeli**, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

This is being submitted to the Mizoram University for the degree of Doctor of Philosophy in Education.

(L.K LALBIAKFELI)

Candidate

(Prof. LALBIAKDIKI HNAMTE)

Head of Department

(Dr. MUTTU VEMULA)

Supervisor

ACKNOWLEDGEMENT

I give thanks to the Almighty God for his protection, blessings and his grace been set upon me during this trial phase in my life of writing my thesis. All through this journey, circumstances, hurdles and struggles are real but God give me the strength to go through this phase equipping me with mental and physical health.

I would like to show my deepest gratitude to my supervisor, Dr. Muttu Vemula, who inspires me, motivates me, advice me and teach me so many life lessons throughout this journey. Without his guidance, expertise and mentorship, this thesis would never be completed within this speculated time.

My sincere thanks to all the District Education Office(DEO)staff in helping me selecting the desired school suitable for my studies. A heartfelt thanks to all the Headmasters and their staff; all the students from the schools visited as they endured the troubles I laid upon them out of their busy class schedules. It is only with their assistance and support that this thesis can be wrapped up within a short span of time. I sent my deepest gratitude to my friends and the other scholars for sharing their knowledge and support throughout this journey. A special thanks to Chami, TBC, Rakil, Thangtea, Utea, Christy and Jumri for encouraging me, motivating me when I felt lost, tired and mentally distressed; your exceptional companionship throughout this course of work is of utmost significance and a remarkable experience in this journey.

I give thanks to my family for supporting me and stand by my side when I needed them the most. Even though they don't understand what I'm studying, they are enthusiastic about my progress and accompanied me during my toughest times. To everyone who come across in my life during this journey, whether mentioned by name or not, I am deeply grateful about your presence and encouragement for being part of my life. You have truly made this journey wonderful and beautiful.

I dedicate this thesis to the women in my family and to women around the world who carry big dreams in their hearts.

Thank You,

L.K Lalbiakfeli

TABLE OF CONTENTS

SL.NO	CONTENTS	PAGE NO.
1.	Supervisor's Certificate.....	i
2.	Candidate's Certificate.....	ii
3.	Acknowledgment.....	iii
4.	Table of Contents.....	iv-xvi
5.	List of Tables.....	xvii-xxv
6.	List of Figures.....	xxvi

CHAPTER – I	INTRODUCTION	PAGE NO.
1.1	Introduction	1
1.2	Life Skills : Conceptual and Theoretical Framework	5
1.3	Principal Components of Life Skills	11
1.4	NEP 2020 and Life Skills	14
1.5	Life Skills Initiative - Globally	16
1.6	Life Skills Initiative - National	21
1.7	Life Skills in Mizoram	23
1.8	Rationale of the Study	25
1.9	Research Gap	28
1.10	Research Question	29
1.11	Statement of the Problem	30

1.12	Objectives of the Study	30
1.13	Hypothesis of the Study	31
1.14	Operational definition of key terms	31
1.15	Delimitation of the Study	33
1.16	Limitation of the Study	33
1.17	Chapterization of the study	34

CHAPTER – II	REVIEW OF RELATED LITERATURE	PAGE NO.
---------------------	-------------------------------------	-----------------

2.1	Introduction	35
2.2	Studies in India Related to Life Skills	35
2.3	Studies outside India Related to Life Skills	52
2.4	Conclusion	66

CHAPTER– III	METHODOLOGY AND RESEARCH PROCEDURE	PAGE NO.
---------------------	---	-----------------

3.1	Introduction	67
3.2	Research Design	67
3.3	Population, Sample and Sampling designs	70
3.4	Tools of the Study	73
3.4.1	Textbook Analysis	73 – 139

3.4.2	Semi – structure Interview	140 – 143
3.4.3	Teachers’ Life Skills Awareness Scale	143 – 145
3.4.3.1	Scoring	
3.4.3.2	Reliability and Validity	
3.4.4	Students’ Life Skills Awareness Scale	146
3.4.4.1	Planning	
3.4.4.2	Item Writing and Preparation of 1 st Draft	
3.4.4.3	Initial try out	
3.4.4.4	Preparation of 2 nd Draft for Pilot Study	137
3.4.4.5	Group try out	147
3.4.4.6	Item Analysis	
3.4.4.7	Discriminating Power	
3.4.4.8	Final Draft	153
3.4.4.9	Reliability	
3.4.4.10	Validity	
3.4.4.11	Description of Final Standardized Tool : Students’ Life Skills Awareness Scale	154
3.4.4.12	Student’s Life Skills Awareness Scale	
3.4.4.13	Dimension of Life Skills	155
3.4.4.14	Description of Items	157

3.4.4.15	Scoring	159
3.4.4.16	Reliability	
3.4.4.17	Validity	160
3.4.4.18	Standardization	
3.4.4.19	Statistical Results	
3.4.4.20	Norms	
3.5	Data Collection Procedure	163 – 166
3.6	Statistical Technique for Analysis	166
3.6.1	Qualitative Data Analysis	
3.6.2	Quantitative Data Analysis	167

CHAPTER– IV	ANALYSIS AND INTERPRETATION OF DATA	PAGE NO.
4.1	Introduction	168
4.2	Exploring Life Skills Components in the Secondary School Education Syllabus	170 – 173
4.2.1	Incorporation of Life Skills in Secondary School Syllabus of Central Board of School Education (CBSE) textbook	174 – 179

4.2.2	Incorporation of Life Skills Components in Secondary School Syllabus of Mizoram Board of School Education (MBSE) textbook	179 – 185
4.2.3	Conclusion	185 – 186
4.2.4	Challenges in Implementing Life Skills Components in Textbook	187 – 188
4.3	Analyzing Central Board of School Education (CBSE) Syllabus with Reference to WHO Life Skills Components	189
4.3.1	Analysis of CBSE Class – IX Social Science Textbook	189 – 197
4.3.2	Conclusion	197 – 199
4.3.3	Analysis of CBSE Class – IX Maths Textbook	202 – 208
4.3.4	Conclusion	208 – 211
4.3.5	Analysis of CBSE Class – IX Science Textbook	213 – 219
4.3.6	Conclusion	219 – 223
4.3.7	Analysis of CBSE Class – X Social Science Textbook	225 – 231
4.3.8	Conclusion	231 – 234
4.3.9	Analysis of CBSE Class – X Maths Textbook	237 – 241
4.3.10	Conclusion	241 – 245
4.3.11	Analysis of CBSE Class – X Science Textbook	247 – 253

4.3.12	Conclusion	253 – 256
4.4	Analyzing Mizoram Board of School Education (MBSE) Syllabus with Reference to WHO Life Skills Components	258
4.4.1	Analysis of MBSE Class – IX Social Science Textbook	258 – 263
4.4.2	Conclusion	264 – 266
4.4.3	Analysis of MBSE Class – IX Maths Textbook	268 – 272
4.4.4	Conclusion	273 – 275
4.4.5	Analysis of MBSE Class – IX Science Textbook	278 – 283
4.4.6	Conclusion	283 – 286
4.4.7	Analysis of MBSE Class – X Social Science Textbook	288 – 293
4.4.8	Conclusion	294 – 295
4.4.9	Analysis of MBSE Class – X Maths Textbook	298 – 302
4.4.10	Conclusion	302 – 303
4.4.11	Analysis of MBSE Class – X Science Textbook	306 – 311
4.4.12	Conclusion	311 – 313
4.5	Comparing CBSE and MBSE Syllabus with Reference to WHO Life Skills Components	315

4.5.1	Comparing Life Skills Integration in CBSE and MBSE Class – IX Social Science Textbook	315 – 319
4.5.2	Conclusion	319
4.5.3	Comparing Life Skills Integration in CBSE and MBSE Class – IX Maths Textbook	320 – 323
4.5.4	Conclusion	324
4.5.5	Comparing Life Skills Integration in CBSE and MBSE Class – IX Science Textbook	325 – 328
4.5.6	Conclusion	329
4.5.7	Comparing Life Skills Integration in CBSE and MBSE Class – X Social Science Textbook	329 – 332
4.5.8	Conclusion	332
4.5.9	Comparing Life Skills Integration in CBSE and MBSE Class – X Maths Textbook	333 – 336
4.5.10	Conclusion	336
4.5.11	Comparing Life Skills Integration in CBSE and MBSE Class – X Science Textbook	337 – 340
4.5.12	Conclusion	340 – 341
4.6	Studying the Perception of the Secondary School Teacher on WHO Ten Core Life Skills Components	342 – 346

4.6.1	Difference among Secondary School Teachers' Perception Towards Life Skills of Mizoram with reference to Board	346 – 351
4.6.2	Difference Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Gender	351 – 352
4.6.3	Difference Among Secondary School Teachers Perception of Life Skills of Mizoram with reference to District – Wise	352
4.6.4	Difference Among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Educational Qualification	353 – 358
4.6.5	Difference in the Life Skills among Secondary School Teachers of Mizoram with Reference to Locality	358
4.7	Studying the Awareness Level of Secondary School Students Towards WHO Life Skills Components	359 – 364
4.7.1	Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Class (Class – IX & Class – X)	364 – 367
4.7.2	Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Board (CBSE&MBSE)	368 – 371

4.7.3	Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Family	372 – 376
4.7.4	Difference in the Life Skills Awareness Level of Secondary School Students of Mizoram with Reference to Gender	376
4.7.5	Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Locality	377
4.7.6	Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Economical Status of Family	378
4.7.7	Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Parental Education	379
4.7.8	Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to District – Wise	380 – 383
4.8	To find out the Life Skills activities implemented in the secondary school of Mizoram	384 – 395
4.8.1	Summarization of the Interview Data	396 – 397
4.8.2	Comparison of Interview Schedule of Headmasters' on Life Skills from both Board (CBSE & MBSE)	398 – 401

4.9	Overall conclusion	402 – 404
-----	--------------------	-----------

**CHAPTER – MAJOR FINDINGS, SUMMARIZATION, PAGE NO.
IV DISCUSSION AND RECOMMENDATION**

5.1	Major Findings of the Study	405
5.1.1	Findings of Objective 1	405 – 407
5.1.2	Summarization	408
5.1.3	Findings of Objective no 2	408 – 409
5.1.4	Summarization	410
5.1.5	Findings of Objective no 3	411 – 412
5.1.6	Summarization	412 – 413
5.1.7	Findings of Objective no 4	413
5.1.7.1	Comparing Life Skills Integration in CBSE Vs MBSE Class – IX Social Science Textbook	413
5.1.7.2	Comparing Life Skills Integration in CBSE Vs MBSE Class – IX Maths Textbook	414
5.1.7.3	Comparing Life Skills Integration in CBSE Vs MBSE Class – IX Science Textbook	414
5.1.7.4	Comparing Life Skills Integration in CBSE Vs MBSE Class – X Social Science Textbook	414
5.1.7.5	Comparing Life Skills Integration in CBSE Vs MBSE Class – X Maths Textbook	415

5.1.7.6	Comparing Life Skills Integration in CBSE Vs MBSE Class – X Science Textbook	415
5.1.8	Summarization	415 – 416
5.1.9	Discussions for Objective 1,2,3,4	416 – 421
5.1.10	Findings of Objective no 5	421
5.1.10.1	Levels of Secondary School Teacher (MBSE & CBSE) towards WHO Life Skill Components	421 – 422
5.1.10.2	Difference Among Secondary School Teachers' Perception Towards Life Skills of Mizoram with Reference to Board	422
5.1.10.3	Difference in Life Skills Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Gender	423
5.1.10.4	Difference in the Life Skills Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to District – wise	423
5.1.10.5	Difference Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Educational Qualification	423
5.1.10.6	Difference in the Life Skills Among Secondary School Teachers of Mizoram with Reference to Locality	424
5.1.11	Findings of Objective no 6	424

5.1.11.1	Levels of Life Skills Awareness of Secondary School Students in Mizoram	424 – 426
5.1.11.2	Difference in the Life Skills Awareness of Secondary School student of Mizoram with reference to Class (Class – IX & Class – X)	426
5.1.11.3	Difference in the Life Skills Awareness of Secondary School student of Mizoram with reference to Board (MBSE & CBSE)	427
5.1.11.4	Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to Family	427
5.1.11.5	Difference in the Life Skills Awareness of Secondary School Students of Mizoram with Reference to Gender	428
5.1.11.6	Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to Locality	428
5.1.11.7	Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to Economical Status of Family	428
5.1.11.8	Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to Parental Education	428

5.1.11.9	Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to District – wise	428
5.1.12	Findings of Objective no 7	429 – 430
5.1.13	Discussion for Objective 5,6 and 7	430 – 436
5.2	Recommendation	437 – 440
5.3	Educational Implications of the Study	440 – 442
5.4	Suggestions for Further Study	442 – 443

LIST OF TABLES

TABLE NO.	NAME OF THE TABLE	PAGE NO.
3.1	District – wise Distribution of Population for the Study which include both CBSE and MBSE schools	70
3.2	Schools and number of respondents selected for the sample	72
3.3	Selected Textbook for Analysis of the Present Study	74
3.4	Displaying Content Analysis of CBSE Textbooks	77
3.5	Displaying Content Analysis of MBSE Textbooks	106
3.6	Dimensions of Life Skills with number of statement	143 – 144
3.7	Norms for Interpretation of the Level of Teachers' Life Skills	145
3.8	t-test of Upper 27% and Lower 27% of 100 items for Students' Life Skills Awareness Scale	149 – 152
3.9	Reliability of Students' Life Skills Awareness Scale	153
3.10	Dimensions of Life Skills	155 – 157
3.11	Skill wise type of items with serial number	158
3.12	Nature of Items and its Number	159
3.13	Scoring system	159
3.14	Statistical Results	160
3.15	z-score Norms for Students Awareness on Life Skills Scale	161 – 162
3.16	Norms for Interpretation of Students' Life Skills Awareness Scale	163
4.1	Overall Comparative Analysis of the CBSE textbooks	175

4.2	Life Skills Dimension wise Distribution in CBSE Class IX and X Textbooks	177
4.3	Overall Comparative Analysis of the textbook	181
4.4	Life Skills Dimension wise Distribution in MBSE Class IX and X Textbooks	183
4.5	WHO Life Skills Component-Wise Distribution in CBSE Class – IX Social Science Textbook	189
4.6	Overall Analysis of CBSE Class – IX Social Science Textbook with Regard to WHO Ten Core Life Skills Components	192
4.7	WHO Life Skills Mapping at CBSE Class-IX Social Science Textbook	200
4.8	WHO Life Skills Component-Wise Distribution in CBSE Class – IX Maths Textbook	202
4.9	Overall Analysis of CBSE Class – IX Maths Textbook with Regard to WHO Ten Core Life Skills Components	204
4.10	WHO Life Skills Mapping in CBSE Class-IX Mathematics Textbook	211 – 212
4.11	WHO Life Skills Component-Wise Distribution in CBSE Class – IX Science Textbook	213
4.12	Overall Analysis of CBSE Class – IX Science Textbook with Regard to WHO Ten Core Life Skills Components	215
4.13	WHO Life Skills Mapping in CBSE Class-IX Science Textbook	223
4.14	WHO Life Skills Component-Wise Distribution in CBSE Class – X Social Science Textbook	225

4.15	Overall Analysis of CBSE Class – X Social Science Textbook with Regard to WHO Ten Core Life Skills Components	227
4.16	WHO Life Skills Mapping in CBSE Class-X Social Science Textbook	235
4.17	WHO Life Skills Component-Wise Distribution in CBSE Class-X Maths Textbook	237
4.18	Overall Analysis of CBSE Class – X Maths Textbook with Regard to WHO Ten Core Life Skills Components	239
4.19	WHO Life Skills Mapping in CBSE Class-X Maths Textbook	245
4.20	WHO Life Skills Component-Wise Distribution in CBSE Class – X Science Textbook	247
4.21	Overall Analysis of CBSE Class – X Science Textbook With Regard To WHO Ten Core Life Skills Components	249
4.22	WHO Life Skills Mapping in CBSE Class-X Science Textbook	256
4.23	WHO Life Skills Component-Wise Distribution in MBSE Class – IX Social Science Textbook	258
4.24	Overall Analysis of MBSE Class – IX Social Science Textbook with Regard to WHO Ten Core Life Skills Components	260
4.25	WHO Life Skills Mapping in MBSE Class-IX Social Science Textbook	266
4.26	WHO Life Skills Component-Wise Distribution in MBSE Class – IX Textbook	268

4.27	Overall Analysis of MBSE Class – IX Maths Textbook with Regard to WHO Ten Core Life Skills Components	270
4.28	WHO Life Skills Mapping in MBSE Class-IX Mathematics Textbook	276
4.29	WHO Life Skills Component-Wise Distribution in MBSE Class – IX Science Textbook	278
4.30	Overall Analysis of MBSE Class – IX Science Textbook with Regard to WHO Ten Core Life Skills Components	280
4.31	WHO Life Skills Mapping in MBSE Class-IX Science Textbook	287
4.32	WHO Life Skills Component-Wise Distribution in Social Science Textbook	288
4.33	Overall Analysis of MBSE Class – X Social Science Textbook with Regard to WHO Ten Core Life Skills Components	290
4.34	WHO Life Skills Mapping in MBSE Class-X Social Science Textbook	296
4.35	WHO Life Skills Component-Wise Distribution in Class-X Maths Textbook	298
4.36	Overall Analysis of MBSE Class – X Maths Textbook with Regard to WHO Ten Core Life Skills Components	300
4.37	WHO Life Skills Mapping in MBSE Class-X Maths Textbook	304
4.38	WHO Life Skills Component-Wise Distribution in Class – X Science Textbook	306

4.39	Overall Analysis of MBSE Class – X Science Textbook with Regard to WHO Ten Core Life Skills Components	308
4.40	WHO Life Skills Mapping in MBSE Class-X Science Textbook	313
4.41	Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – IX Social Science Textbook	316
4.42	Final Comparative Insights	318
4.43	Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – IX Maths Textbook	321
4.44	Final Comparative Insights	323
4.45	Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – IX Science Textbook	326
4.46	Final Comparative Insights	327
4.47	Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – X Social Science Textbook	330
4.48	Final Comparative Insights	331
4.49	Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – X Maths Textbook	333
4.50	Final Comparative Insights	335
4.51	Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – X Science Textbook	337
4.52	Final Comparative Insights	339

4.53	Overall Levels of Secondary School Teacher (CBSE&MBSE) Perception towards WHO Life Skill	342
4.54	Dimension wise Level of Secondary School Teacher (CBSE&MBSE) Perception towards WHO Life Skill	344
4.55	Difference in the Perception of Life Skills of Secondary School Teachers of Mizoram with reference to Board (CBSE&MBSE)	346
4.56	Difference in the Communication Skills of Secondary School teachers Perception of Life Skills of Mizoram with reference to Board (CBSE&MBSE)	347
4.57	Difference in the Collaboration Skills of Secondary School teachers Perception of Life Skills of Mizoram with reference to Board (CBSE&MBSE)	348
4.58	Difference in the Creative Skills of Secondary School teachers Perception of life skills of Mizoram with reference to Board (CBSE&MBSE)	349
4.59	Difference in the Critical Skills of Secondary School teachers Perception of Life Skills of Mizoram with reference to Board (CBSE&MBSE)	350
4.60	Difference in Life Skills Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Gender (CBSE&MBSE)	351
4.61	Difference in the Life Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to District – wise (CBSE&MBSE)	352
4.62	Difference in the Life Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)	353

4.63	Difference in the Communication Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)	354
4.64	Difference in the Collaboration Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)	355
4.65	Difference in the Creative Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)	356
4.66	Difference in the Critical Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)	357
4.67	Difference in the Life Skills among Secondary School Teachers of Mizoram with reference to Locality	358
4.68	Overall Levels of Secondary Student Life Skill	359
4.69	Levels of Thinking skill, Social skill and Emotional skill of Secondary School Student in Mizoram	361
4.70	Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)	364
4.71	Difference in the Thinking Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)	365
4.72	Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)	366

4.73	Difference in the Emotional Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)	367
4.74	Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)	368
4.75	Difference in the Thinking Skills Level of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)	369
4.76	Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)	370
4.77	Difference in the Emotional Skills of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)	371
4.78	Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Family	372
4.79	Difference in the Thinking Skills Level of Secondary School student of Mizoram with reference to Family	373
4.80	Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Family	374
4.81	Difference in the Emotional Skills Level of Secondary School student of Mizoram with reference to Family	375
4.82	Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Gender	376
4.83	Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Locality	377

4.84	Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Economical Status of Family	378
4.85	Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Parental Education	379
4.86	Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to District Wise	380
4.87	Multiple comparisons using Post Hoc test of Life Skills of Secondary School Students with regards to District – Wise	381
4.88	Comparison Table of Interview of Headmasters' on Life Skills from both CBSE & MBSE school	398

LIST OF FIGURES

FIGURE NO.	NAME OF THE FIGURE	PAGE NO.
3.1	Showing Research Design for the Present Study	68
3.2	Classification of Life Skills in Different Dimension	75
4.1	Classification Of WHO Life Skills In Different Dimension	173
4.2	Overall Levels of Secondary School Teacher (CBSE&MBSE) Perception towards WHO Life Skill	343
4.3	Dimension wise Level of Secondary School Teacher (CBSE&MBSE) Perception towards WHO Life Skill in Mizoram	334
4.4	Levels of Life Skills of Secondary School Students in Mizoram	360
4.5	Levels of Thinking skill, Social skill and Emotional skill of Secondary School Student in Mizoram	352
4.6	Mean Plot of Life Skills Awareness Level and District – Wise Levels	382

CHAPTER – 1

INTRODUCTION

1.1. Introduction

Education is the backbone of every country to rise up from ashes to build an empire in this cutthroat contemporary world. Every country's secret weapon lies on how efficient their education thrive within their nation, bridging the gap between the known and unknown to enlighten the people from the shadow of ignorant. Education is fundamental not only to individual advancement but also to the socio-economic and cultural development of societies. It is a powerful tool that shapes personalities, fosters innovation and builds the foundation for sustainable progress. At the individual level, education transforms lives by opening opportunities for better careers, financial independence and informed decision making. Research in India has shown that the expansion of education significantly contributed to poverty reduction with multidimensional poverty falling from about 55% in 2005 – 2006 to about 28% in 2015 – 16 (NIEPA, 2021). This illustrates how education equips individuals to realize their potential while uplifting entire communities.

The benefit of education extend beyond economics into health and well-being. Studies across OECD countries demonstrates that individuals with tertiary education live on average about five years longer than those without upper secondary schooling (OECD,2018). Similarly, a study in Turkey revealed that compulsory schooling reforms led to improved health behaviors and healthier body weight among women (Arendt, 2018). These findings highlight the link between educational attainment and healthier lifestyles, longer life expectancy and reduced risks of chronic diseases. At a societal level, education builds social cohesion and strengthens democracy by promoting critical thinking, civic responsibility and respect for diversity. Thus, adolescence must be given consideration as this stage is a crucial stage in human development which is often regarded as the most significant phase of life. During this period, young people are completing their

secondary education and are considered highly productive members of society due to their physical strength and intellectual potential. However, they also encounter numerous psycho-social and physical challenges that may result in stress, uncertainty, self-doubt, disappointment and in severe cases even suicidal tendencies if left unresolved. Many adolescents also experience pressure to exceed normal expectations in order to gain recognition and approval from family and society (Subita,2013). In today's context, education must go beyond academic instruction to equip children with the ability to adapt to their surroundings, utilize resources effectively, recognize opportunities and tackle the challenges posed by society. Achieving such behavioral growth requires that school curricula be enriched with well-research, comprehensive Life Skills education. A child empowered with Life Skills develops the competence to face adversities and make constructive use of available resources to overcome life's difficulties (Srikala & Kishor,2010).

Research consistently shows that Life Skills play a vital role in the overall well being of individual particularly adolescents. Training in Life Skills and Life Skills-based education has been found to enhance self-esteem, self-concept, self-confidence, social adjustment, mental health and academic performance. It is also highly effective in reducing antisocial behaviors such as substance abuse, violence and suicidal tendencies while shaping individuals into active, responsible and productive members of society as well as good citizens. Anuradha (2012) demonstrated a strong link between Life Skills and self-concept concluding that strengthening Life Skills enhances adolescents' self-perception. Bardhan (2016), through a case study, showed that Life Skills training can bring positive behavioral changes among children with problematic behaviors. Bharath and Kumar (2010) found that participatory approaches such as games, debates, role plays and group discussion with the active involvement of teachers make Life Skills education an effective tool to promote adolescents' mental health. Malik (2012) reported significant improvement in academic anxiety, social adjustment and self-esteem levels among early adolescents after undergoing Life Skills training. Similarly, Moshki et.al. (2014) affirms the effectiveness of Life Skills education in preventing drug abuse and Amiran (2012) also

emphasizes the positive impact on the academic achievement of a secondary school students especially boys from the first year in school. Prajapati (2017) also stated how Life Skills education is necessary in this contemporary society as this is going to strengthen the social, emotional and cognitive abilities through engaging classroom activities such as brainstorming, storytelling, debates, role play, group discussion and situation analysis.

Adolescents represent the backbone of any nation's future as they are at a critical stage of development where physical strength, intellectual capacity and emotional maturity begin to align. This period is often described as the formative years in which values, attitudes and skills are cultivated that determine not only the individual's future but also the direction of society. Adolescents by virtue of their energy, creativity and ability to adapt, hold immense potential to become drivers of social progress, innovation and nation building. Their productivity and participation in community and national life are vital in shaping a country's political stability, economic growth and social cohesion. Education plays the most important place in all this transformative process and challenges today's issues. It is not only a means of imparting academic knowledge but also a platform for shaping character, widening perspective and equipping adolescents with the necessary tools to face life's circumstances. A well-structured education system nurtures critical thinking, decision-making, problem solving and ethical responsibility in which all are essential for responsible citizenship. When adolescents are enlightened and educated, they are going to have an immense contributions to the society meaningfully, dealing with social inequalities and participate in democratic processes. Education further empowers them to make informed choices, gain employable skills and contribute to economic development thereby reducing poverty and inequality.

However, education in today's rapidly changing world must move beyond the traditional focus on academics. This is where life skills education becomes indispensable. Life skills as defined by the World Health Organization are the abilities that enable individuals to deal effectively with the demands and challenges of everyday life. For

adolescents, Life Skills such as self-awareness, empathy, effective communication, decision making, coping with stress and problem solving are crucial in navigating the complexities of this traditional stage. Without these, even academically successful adolescents may struggle with stress, peer pressure, identity issues and risky behaviours that can hinder their growth and contribution to society. Integrating Life Skills into the school curriculum helps adolescents develop resilience, confidence and adaptability which enabling them to make constructive use of their talents and resources. Research has shown that Life Skills training improves self-esteem, social adjustment, mental health and academic performance while also reducing antisocial behaviours such as substance abuse and violence. A nation that invest in both quality education and Life Skills training for its adolescents is essentially investing in a generation of responsible, capable and productive citizens.

The development of Life Skills has always been an essential; part of the traditional Indian education system where ancient universities were renowned for providing not only academic knowledge but also holistic Life Skills. However, in the contemporary world the Indian education system has been greatly influenced by rapid development and technological progress. As a result, growing competition, social isolation, anxiety, depression and a materialistic outlook have significantly impacted students' lives. Many learners struggle to fully realize their capabilities even though their aspirations are high and they seek quality education that can prepare them to succeed in every sphere of life. To navigate the complex challenges of today's world, young people require a broad set of intrapersonal and interpersonal skills. Unfortunately, skills such as self-awareness, critical thinking skills, empathy, decision making skills, creative and problem solving skills, effective communication, interpersonal relationships and strategies for coping with stress and emotions are often neglected in the present system of education. This gap needs to be addressed with urgency.

In conclusion, adolescents are pivotal to nation building and their development requires a holistic approach where education and Life Skills go hand in hand. By nurturing

their intellectual, emotional and social competencies, societies can ensure that today's adolescents grow into tomorrow's leaders, innovators and change makers, building a strong and progressive nation.

1.2. Life Skills : Conceptual and Theoretical Framework

Life Skills refers to a combination of abilities, attitudes and socio-emotional competencies that help individuals learn effectively, make informed choices and exercise their rights to live a healthy, productive life while contributing as agents of change. They play a crucial role in enhancing mental well-being and resilience among young people as they navigate life's challenges. Alongside supporting foundational abilities such as literacy, numeracy and digital competence Life Skills are applicable across various domains including gender equality in education, environmental sustainability, peacebuilding, development, livelihood creation, income generation and health promotion. By fostering these skills, young people are empowered to take constructive action, actively engage in their communities, pursue lifelong learning, safeguard themselves and build positive and healthy social relationships.

The Mental Health Promotion and Policy (MHP) team of the World Health Organization (WHO) Department of Mental Health defines Life Skills as a process aimed at enabling the practice and reinforcement of psychosocial skills in ways that are both culturally relevant and suited to developmental needs. Such education supports personal and social growth which helps prevent health and social problems and safeguard human rights (WHO, 1999). It highlights that beyond practical or vocational abilities, individuals also require social, personal and reflective skills. Life Skills programme therefore focus on strengthening competencies such as communication, negotiation, critical thinking, problem solving and independent decision making. These advancements have significantly influenced policy and planning, particularly in the sphere of non-formal education for disadvantaged and marginalized youth and adults (UNESCO, New Delhi, 2001). Today, in many regions worldwide, Life Skills are an integral components of both school curricula and adult learning programmes.

UNICEF describes Life Skills as a set of psychosocial and interpersonal abilities regarded as essential for everyday functioning. The selection and focus of these skills depends on the context – for example, decision making is central in HIV/AIDS prevention while conflict resolution plays a greater role in peace education. UNICEF further emphasizes that it is the interaction among these skills that leads to meaningful behavioural outcomes, particularly when reinforced through complementary measures such as media campaigns, supportive policies and accessible health services. Similarly, the International Bureau of Education (IBE) drawing from the Delors' Report's four pillars of learning – learning to know, learning to do, learning to be and learning to live together thus defines life skills as personal management and social competencies required for effective and independent functioning.

The OECD through its DeSeCo project (Rychen & Salganik, 2001) provides a broad definition of Life Skills based on three main criteria : first, that key competencies support both a successful individual life and smooth functioning of society; second, that they equip people to address significant challenges across diverse contexts; and third, that they hold relevance for everyone. Within this framework, the OECD identifies three core areas of competence: the ability to work effectively in socially diverse groups, the capacity to act independently and the skills to using tools in interactive ways.

In general terms, Life Skills can be understood as a combination of knowledge, behaviours, attitudes and values that reflects the ability and practical know how to achieve goals or accomplish tasks. They encompass a wide range of competencies such as critical thinking, creativity, organizational ability, communication and social skills, adaptability, problem solving and cooperative participation in democratic processes all of which are essential for building a peaceful future. Although various lists of Life Skills exist most show considerable overlap, even if they are not entirely identical. According to Dohmen (1996) broadly defined Life Skills can be characterized in three ways : (a) they involve the ability to apply conceptual thinking and reflection to real life situations; (b) they require capacities for effective interaction with one's environment, supported by the right

motivational mindset; and (c) they include psychological foundations for success such as problem solving ability, self confidence and critical thinking skills.

To have a clear insights of the concept, structure and psychological interrelation of Life Skills, it is important to explore the various educational and psychological theories developed by different social scientists. These theories explain how individuals acquire and apply essential skills that influence behaviour, thinking, emotions and social relationships. They highlight the role of observation, experience, cognition and emotional intelligence in shaping human development. The integration of this theoretical perspective provides a holistic view of Life Skills showing how they nurture personal growth, resilience and social competence. Together with frameworks introduced by the World Health Organisations (WHO), UNESCO and UNICEF these theories strengthen our understanding of how Life Skills education supports learners in adapting to real life challenges, making responsible decisions and developing balanced personalities essential for lifelong learning and well-being.

1. Social Learning Theory by Bandura

Bandura's Social Learning Theory (1977) explains that individual learns behaviors, attitudes and emotional responses by observing and imitating others. Bandura observed that "most human behavior is learned observationally through modeling" (Bandura,1977). Learning is a social process mediated by attention, retention, reproduction and motivation. The concept of self – efficacy or believing in oneself to succeed one thing is vital in developing confidence and resilience. In life – skills education, this theory highlights the role of peer learning, role models and feedback in shaping adaptive behaviors. For example, in the context of Life Skills education, students learns effective communication skills, empathy, problem solving skills and decision making skills by watching role models and practicing these behaviors in supportive settings. Through guided observation and feedback, learners internalize appropriate social interactions and emotional regulations. This process nurtures self awareness, empathy and coping skills while promoting constructive thinking and cooperation. Thus, Social Learning Theory closely

aligns with WHO's ten core Life Skills components by emphasizing experiential learning, modelling and reinforcement as essential pathways for developing adaptive social and emotional competencies.

2. Cognitive – Behavioral Theory by Aaron Beck and Albert Ellis

Cognitive – Behavioral Theory (CBT) suggests that individual's thoughts influence their emotions and actions by modifying maladaptive cognitions they can achieve healthier emotional and behavioral outcomes. Beck (1976) asserted that "Cognition plays a significant role in determining emotional responses" which highlight the power of thought in shaping life experiences. Within life skills education, CBT principles teach learners to recognize negative thinking patterns, challenge irrational beliefs and replace them with realistic positive alternatives. This process enhances rational decision-making skills and emotional control. For example, adolescents under pressure can use cognition restructuring to manage stress or avoid impulsive reactions. By promoting reflections and self regulation, CBT strengthens skills such as problem solving skills, critical thinking skills and self awareness skills. Learners become more resilient and capable of coping with stress and emotions effectively. In this way, CBT complements WHO's ten core Life Skills framework which emphasizes balanced emotional management, logical decision making skills adaptability as key components of holistic life skills development.

3. Emotional Intelligence Theory by Daniel Goleman

Daniel Goleman's Emotional Intelligence (EI) theory (1995) focuses on the ability to perceive, understand and manage one's own emotions while emphasizing with others. Goleman famously stated that, "Emotional intelligence can matter more than IQ" underscoring its importance for success and well – being. The theory identified interrelated components like self awareness skills, empathy and social skills that correspond directly to WHO's Life Skills framework. Through self awareness skills, individuals learn to identify their emotions and understand how these affect behavior while self regulations promotes calm and balanced decision making skills. Empathy and

social skills enhance communication and strengthen interpersonal relationship skills. Life Skills programmes rooted in emotional intelligence encourage reflection, mindfulness and emotional vocabulary building. Learners become capable of managing stress and emotions while maintaining harmonious relationships. Thus, Goleman's theory serves as the emotional foundation for WHO's Life Skills model by fostering emotional balance, empathy and resilience which together enable individual to respond constructively to challenges and maintain positive social connections.

4. Experiential Learning Theory by David Kolb

David Kolb's Experiential Learning Theory (1984) describes learning as a continuous process through which knowledge is created by transforming experience. He defines it as "Learning through the transformation of experience". The model outlines four stages like concrete experience, reflective observations, abstract conceptualization and active experimentation which together promote meaningful, holistic learning. Life Skills education naturally fits within this framework as skills such as communication, empathy and decision making are best acquired through active participation and reflection. Activities like role playing, debates and simulations allow learners to experience real life situations and apply new insights in future contexts. This process encourages learner to think critically, make informed decision and adapt creatively to change. Experiential learning also strengthens interpersonal understanding and emotional regulations as students reflect on their actions and feelings. Therefore, Kolb's theory aligns seamlessly with WHO's Life Skills framework by reinforcing that true learning occurs through experience, reflection and practical application rather than passive memorization.

5. Humanistic Theory by Abraham Maslow and Carl Rogers

The Humanistic Theory which is grounded in the works of Maslow and Rogers view education as a process of nurturing self fulfilment, autonomy and emotional growth. Maslow's hierarchy of needs (1943) illustrates that individuals must satisfy basic and psychological needs before reaching self actualization while Rogers (1969) emphasized

that, “Only learning which significantly influences behavior is self discovered, self appropriated learning”. In Life Skills education, this theory promotes learner centered environments where empathy, emotional safety and intrinsic motivation guide the learning process. Teachers act as facilitators rather than authority figures, encouraging reflection and self expression. Learners develop self awareness, empathy and decision making through personal exploration and open dialogue. The theory aligns closely with WHO’S Life Skills framework as it emphasizes coping with stress, understanding emotions and fostering interpersonal harmony. Humanistic education thus focuses on the holistic development of personality, helping learners realize their potential, build confidence and live meaningfully in relation to themselves and others.

Thus, Life Skills education integrates psychological, social and emotional dimensions of learning to nurture well round individuals capable of adapting to life’s challenges. Theories such as Bandura’s Social learning, Beck and Ellis’s Cognitive Behavior, Goleman’s Emotional Intelligence, Kolb’s Experiential Learning and the Humanistic perspectives of Maslow and Rogers collectively provide a comprehensive framework for understanding how life skills are developed and applied. These theories emphasize observation, reflection, emotional regulation, self – awareness skills and experiential growth as key processes that build resilience, confidence and interpersonal competence. Closely aligned with WHO’s ten core Life Skills they support the holistic development of learners by fostering empathy, effective communication, critical thinking skills and problem solving abilities. Life Skills education therefore goes beyond academic achievement it empowers individuals to make informed decisions, maintain mental well being and contribute positively to society thereby laying the foundation for lifelong learning and meaningful participation in personal and community life.

1.3. Principal Components of Life Skills

World Health Organization (WHO) has grouped different Life Skills into three components like :

1. Thinking skills,
2. Social skills and
3. Emotional skills

Under Thinking skills, it includes different skills like Critical thinking skills, Creative thinking skills, Problem solving skills, Self awareness skills and Decision making skills. These skills play a vital role in shaping an individual's overall development and success. They enhance one's ability to think independently, act responsibly and adapt effectively to changing circumstances. By fostering analytical reasoning, emotional understanding and sound judgment, they enable individuals to face challenges confidently and make informed choices. Such skills also encourage creativity, resilience and self motivation which are crucial for both personal growth and social interaction. In education and daily life, they promote holistic development, empowering individuals to manage emotions, build positive relationships and contribute meaningfully to their communities and the larger society.

Under Social Thinking skills, it includes skills like Effective Communication skills and Interpersonal Relationship skills. These skills are fundamental for building understanding, trust and cooperation among individuals. They enable people to express thoughts and emotions clearly, listen empathetically and resolve conflicts peacefully. These skills foster positive relationships, strengthen teamwork and create supportive social environments essential for both personal and professional success. In education and community life, they enhance collaboration, promote respect for diverse perspectives and reduce misunderstandings. By improving emotional connection and mutual respect, effective communication and healthy relationships contribute to mental well being, social

harmony and the development of responsible, compassionate and confident individuals in an interconnected world.

Under Social skills, it include skills like Coping with Stress, Coping with Emotions and Empathy. The ability to handle pressure, regulate emotions and understand others' feelings is vital for personal well-being and social harmony. Managing challenges calmly helps maintain balance and supports effective decision making. Emotional regulation fosters self control, clarity of thoughts and positive behavior in difficult situations. Understandings and connecting with others' perspective nurtures compassion, trust and cooperation. Together, these skills strengthen resilience, improve relationships and promote mental health, enabling individuals to adapt constructively to life's challenges while contributing positively to their communities.

Let us discuss the different ten core life skills given by World Health Organisation (WHO) in skill wise :

1. **Decision making skills** : Decision making skills refer to a person's ability to choose the most suitable course of action after thoroughly evaluating available options and circumstances. These skills are essential in both personal and professional life enabling individuals to handle situations thoughtfully and make constructive choices that positively make differences in their lives.
2. **Problem solving skills** : Problem solving skills are the ability to address challenges effectively and promptly without obstacles. They allow individuals to manage issues constructively, as unresolved issues can address to mental boredom and other negative consequences.
3. **Creative thinking skills** : Creative thinking skills involves approaching situations, problems or conditions from fresh and innovative perspectives. It encourages unconventional and unique solutions which may initially seem unusual but often prove highly effectively. This type of thinking enhances decision making and problem solving by allowing exploration of different options and potential

outcomes. It enables individuals to move beyond their immediate experiences fostering adaptability and flexibility. Even when no specific problem exists or decision is required, creative thinking skills helps respond constructively to everyday situations, encouraging innovation and open-mindedness in dealing with life's challenges.

4. **Critical thinking skills :** Critical thinking skills is the ability to objectively evaluate information and experiences. Unlike Creative thinking skills, it focuses on distinguishing between truth and falsehood, fact and opinion. This skills enables individuals to think logically, make sound judgments and build trust in what is right while avoiding errors. Educational curricula should include methods that foster higher order thinking such as inference, prediction and analysis. By applying critical thinking strategies, learners develop reasoning, questioning, observation, comparison and perspective taking abilities. These skills are essential for effective problem solving across all areas of learning.
5. **Interpersonal Relationship skills :** Interpersonal Relationships skills enable individuals to engage positively with others fostering healthy and supportive connections. These skills are vital for maintaining friendships which greatly contribute to mental and social well-being. They also help in sustaining strong bonds with family members who provide essential social support. Additionally they allow individuals to conclude relationships respectfully and constructively when necessary ensuring emotional balance and healthy interactions in personal and social life.
6. **Self Awareness skills :** Self awareness skills allow individuals to understand their own need, desires, emotions and habits. The greater the self understanding the better one can adapt to life changes that align with personal needs. It involves recognizing one's character, strengths, weaknesses, preferences and aversions enabling more informed and balanced responses to different situations.

7. **Empathy :** Empathy is the capacity to understand and share the feelings of another person, even in unfamiliar situations. It fosters acceptance of people who are different from ourselves thus enhancing social relationships. Empathy also encourages supportive and caring behaviour toward those in need and promotes tolerance, compassion and positive interpersonal connections.
8. **Effective Communication skills :** This skills involves expressing oneself clearly through both verbal and non-verbal means in ways that are appropriate to one's cultural and situational context. It also includes the ability to seek guidance and support when needed.
9. **Coping with Emotion :** This skill involves identifying feelings in ourselves and others, understanding how these emotions affect behavior and responding to them appropriately. Uncontrolled intense emotions such as anger or sadness can negatively impact health if not managed properly.
10. **Coping with Stress :** This skills involves identifying its sources understanding their impact on us and taking steps to regulate stress levels. This can include addressing and reducing stress triggers or learning relaxation techniques to prevent stress related health issues.

Thus, these skills are essential for personal growth, effective decision making, emotional well – being and healthy relationships. They empower individuals to adapt, communicate and respond constructively to challenges, thus fostering resilience, harmony and meaningful participation in life and society.

1.4. NEP 2020 and Life Skills

The National Education Policy (NEP) 2020 marks a transformative role in India's educational philosophy by aiming to prepare the learners not only for academic excellence but also for life itself. Deeply rooted in the idea of overall development, flexible, multidisciplinary and value-based learning, NEP 2020 see through education as a process

of nurturing the complete individuals in their intellectual, emotional, social and ethically. One of the remarkable contributions is the strongest emphasis on the development of ‘Life Skills’ which is the essential abilities that enable the individual to deal effectively with the challenges of everyday life. The policy recognizes that education should go beyond rote learning and examinations target in order to focus on building competencies that help students become confident, responsible person and adaptive citizens in this rapidly changing contemporary world.

Life Skills education as promoted in NEP 2020 is closely aligned with the global framework defined by organizations such as World Health Organization (WHO), UNICEF and UNESCO. According to WHO, Life Skills are “abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life”. NEP 2020 echoes this definition by stressing on the need for students to develop critical thinking, creativity, communication, problem solving, collaboration and socio emotional skills. The policy recognizes that 21st century learners must be equipped not only with cognitive and technical knowledge but also with emotional intelligence, empathy, resilience and ethical reasoning. This comprehensive vision is integrated into all stages of the new 5+3+3+4 curricular structure ensuring that the foundations for Life Skills is laid early and strengthened throughout the schooling years.

NEP 2020 seeks to achieve Life Skills education through experiential and activity based pedagogies that make learning meaningful and relevant. It encourages teachers to adopt methods such as project based learning, group discussion, role play and real life problem solving exercises that engage students in practical situations. By connecting learning with real world experiences, the policy ensures that students are not passive receivers of knowledge but active participations in their own growth. Moreover, NEP 2020 introduces a shift towards competency based education and formative assessment where students are evaluated on their ability to apply knowledge and skills rather than merely recall facts. This approach not only enhances understanding but also helps in

cultivating decision making, leadership and emotional regulation which is the key aspects of Life Skills.

The policy also highlighted the importance of socio emotional learning and mental well being, it recognizes that a healthy mind is essential for productive learning and personal development. NEP 2020 advocates for integrating values, ethics and emotional intelligence into the curriculum thus fostering empathy, compassion and respect for diversity. Through activities such as community service, art and sports, students learn teamwork, cooperation and a sense of social responsibility. The focus on multilingualism, vocational education and flexibility in choosing subjects further supports the development of self awareness and adaptability, helping learners navigate complex social and professional environments.

In essence, NEP 2020 envisions Life Skills education as the foundation of holistic human development. It aims to create learners who can think critically, communicate effectively, act ethically and live harmoniously in society. By aligning with the global understanding of Life Skills and integrating it into every aspect of the curriculum the policy aspires to build a generation of individuals who are not only academically competent but also emotionally balanced, socially responsible who are not only academically competent but also emotionally balanced, socially responsible and capable of lifelong learning. Thus, NEP 2020 represents a significant step towards transforming India's education system into one that truly prepares its citizen for life in the 21st century.

1.5. Life Skills Initiative – Globally

Life Skills education has become an integral competent of global education initiatives reflecting a transition from traditional academic instruction towards holistic human development. It is clearly defined by World Health Organization (WHO) as the abilities that enable individual to adapt and behave positively to deal effectively with the challenges of everyday life (WHO, 1997). Over the past three decades, international agencies such as UNICEF, UNESCO and WHO have collaborated with national

governments to integrate Life Skills into education systems, recognizing that these competencies such as critical thinking, problem solving, communication, empathy and resilience are fundamental for personal wellbeing, social cohesion and economic participation in the 21st century.

The foundational concepts for structured Life Skills education were solidified on the global stage in the mid-1990s. This was a pivotal moment when international bodies, primarily the World Health Organization (WHO) and UNICEF, introduced the "Life Skills Education for Children and Adolescents in Schools" framework. This initiative was not developed in a vacuum; it was a direct and strategic response to a confluence of escalating social and public health crises, particularly the global HIV/AIDS pandemic, rising substance abuse among youth and growing concerns about youth unemployment. The initial framework focused on a set of core psychosocial competencies such as decision-making, critical thinking and coping with stress deemed essential for preventing high-risk behaviors. Since these beginnings, the philosophy of Life Skills education has undergone a significant evolution, expanding its mandate beyond a narrow health-promotion focus. It now encompasses a much broader vision for holistic human development, integrating socio-emotional learning and cognitive growth. A prime example of this expanded scope is UNESCO's "Education for Sustainable Development" framework, which explicitly links the acquisition of Life Skills to larger goals like nurturing responsible global citizenship, fostering environmental stewardship and promoting intercultural understanding. This progression reflects a consolidated international consensus that modern education must do more than impart academic knowledge; it must actively empower learners to become reflective, proactive and empathetic individuals capable of shaping a better future for themselves and their communities.

The translation of this global framework into national policy demonstrates the importance of context-specific adaptation. Eswatini (formerly Swaziland) provides a powerful case study. Facing one of the world's highest HIV/AIDS prevalence rates, the

nation introduced its Life Skills Education Programme with crucial support from UNICEF and the Global Fund. The program's design was strategically integrated, combining essential life-saving health education with practical psychosocial skills training. The objective was to equip adolescents with the internal tools to make informed health choices, effectively resist social and peer pressure, and consistently adopt safer sexual behaviors. A critical element of its implementation was a radical shift in pedagogical approach. Teachers were specifically trained to move away from traditional, didactic lectures and instead employ participatory, student-centered methods such as facilitated group discussions, storytelling, and role-playing exercises. This method made the lessons more relatable and memorable. Subsequent evaluations of the program demonstrated its multifaceted success; students not only retained crucial knowledge about HIV transmission and prevention but also exhibited tangible improvements in self-confidence, interpersonal communication, and autonomous decision-making abilities, proving that the program achieved both informational and transformational goals.

In regions shattered by violence and instability, Life Skills education takes on a critically different role, serving as a cornerstone for psychological recovery and social rebuilding. Yemen, embroiled in a prolonged and devastating conflict, exemplifies this application. Through UNICEF's "Life Skills and Citizenship Education" initiative, which was financially backed by the European Union, young people including many who were internally displaced or had been forced to drop out of school received structured training. The curriculum was carefully tailored to meet the extreme challenges of their environment, focusing on essential competencies like communication, emotional self-regulation, creative problem-solving, and entrepreneurship. The program's dual aim was to enhance the employability and social inclusion of a "lost generation" while simultaneously fostering profound personal and collective resilience amid ongoing instability. According to reports from UNICEF, participants consistently noted greater self-confidence and a renewed sense of optimism for the future. These individual benefits had a ripple effect, contributing to improved social cohesion within fractured communities.

and creating tangible prospects for livelihood generation, thereby offering a pathway to stability even in the midst of conflict.

Recognizing that a one-size-fits-all model is ineffective, implementers in South Asia have pioneered culturally resonant programs that creatively link Life Skills with local interests like sports and vocational training. A standout example from India is UNICEF's "CRIIIO 4 GOOD" initiative. This program cleverly leverages the immense popularity of cricket a sport that functions as a cultural unifier in the region as a powerful metaphor for life's challenges. Through a series of eight animated and interactive sessions, children engage with relatable scenarios that teach leadership, teamwork, empathy, and conflict resolution. By framing these abstract concepts within the familiar context of a cricket match, the modules make learning intuitive, accessible, and highly engaging for a young audience. This innovative approach demonstrates a key principle for global education: that using culturally grounded and entertaining tools can dramatically lower barriers to learning, ensuring that critical Life Skills are not just taught but are truly absorbed and enjoyed by the intended learners.

Parallel to specific Life Skills programs, there has been a formalized, global recognition of Social-Emotional Learning (SEL) as the foundational dimension of this educational approach. Organizations like the Karanga Global Alliance, established in partnership with UNESCO and the Brookings Institution, exemplify this trend. Karanga serves as a major global platform dedicated to advancing research, advocacy, and practice, connecting educators and policymakers from diverse countries to share evidence-based strategies for embedding emotional intelligence, empathy, and well-being into school systems. Similarly, other entities such as Global Initiatives Inc. have developed cross-national programs that extend beyond traditional SEL to teach practical, "world-ready" competencies. These include financial literacy, business ethics and social entrepreneurship, effectively helping young people create a vital bridge between their academic knowledge and the real-world skills needed to thrive in the global economy and contribute positively to society.

Despite the strong consensus on the value of Life Skills education, significant obstacles persist in scaling and sustaining these programs with quality and equity. In many developing nations, severe resource constraints limit the availability of trained teachers, funding for ongoing support and the development of locally relevant materials. Furthermore, deeply entrenched, examination-oriented education cultures present a major systemic barrier; skills like empathy, resilience and cooperation are difficult to quantify through standardized tests, leading them to be deprioritized in favor of more easily measured academic subjects. Cultural sensitivity remains another critical challenge, as curriculum content related to gender equality, emotional expression, or adolescent health can sometimes conflict with local traditional norms and values, necessitating careful, community-engaged adaptation. Finally, the field grapples with a complex methodological hurdle: evaluating the outcomes of life skills education. Unlike literacy or numeracy, changes in behaviors, values, and attitudes are often subtle, context-dependent, and manifest over the long term, making them resistant to conventional short-term measurement techniques.

Notwithstanding these challenges, a robust and growing body of global evidence underscores the significant, multi-faceted benefits of Life Skills education for both individual youth development and broader societal progress. At the individual level, it consistently enhances learners' motivation and engagement in school, reduces the incidence of risky behaviors, improves interpersonal relationships, and bolsters mental and emotional well-being. When integrated with vocational or technical education, it directly increases young people's employability and entrepreneurial capabilities. On a societal level, the benefits are equally profound. These programs actively promote essential democratic virtues such as tolerance, peaceful cooperation, and civic engagement, which are the bedrock of stable, inclusive societies. International research, including comprehensive studies by UNESCO, has consistently concluded that education systems which intentionally incorporate structured life skills programs ultimately produce graduates who are not only academically capable but also emotionally resilient, socially responsible, and better prepared to contribute meaningfully to their communities.

In conclusion, the diverse proliferation of Life Skills education initiatives around the world signals a fundamental and growing recognition that the purpose of education must extend beyond academic attainment to serve the holistic development of the individual. Through the combined and synergistic efforts of global organizations, national governments, and community-based partners, millions of young people are now being equipped with the essential competencies both "hard" and "soft" to navigate the complex, real-life challenges of the 21st century with confidence, adaptability, and compassion. While implementation strategies rightly vary from one region to another based on local needs and cultures, the escalating global emphasis on this form of learning represents a profound paradigm shift in educational philosophy. This shift moves the focus from solely producing proficient test-takers to nurturing well-rounded human beings, thereby placing lifelong learning, social well-being and comprehensive human development at the very heart of what education is meant to achieve.

1.6. Life Skills Initiative – National

Over recent decades, Life Skills education has become a cornerstone of India's vision for holistic education, designed to equip youth with the competencies needed to navigate life's challenges, make informed decisions and contribute meaningfully to society. This national priority has been advanced through collaborative efforts involving various ministries, educational boards, and international partners, all working towards the common goal of complementing academic instruction with the social and emotional skills vital for individual and collective well-being. The groundwork for this movement was established by the National Curriculum Framework (NCF) of 2005, which marked a significant departure from rote memorization by championing experiential, value-based learning. The National Council of Educational Research and Training (NCERT) was instrumental in operationalizing this vision, weaving Life Skills into various academic subjects and creating specialized teacher manuals and resources. This initiative aimed to make classroom learning more relevant and engaging, fostering essential abilities like critical thinking, empathy, and problem-solving.

A major national initiative, the Adolescence Education Programme (AEP), was launched in 2005 by the Ministry of Education in partnership with WHO and UNICEF. Targeting secondary school students, the AEP addressed the unique challenges of adolescence, covering topics from health and gender sensitivity to HIV/AIDS awareness and emotional management. Through interactive methods like classroom discussions and peer-led sessions, the programme sought to build resilience and empower adolescents to make responsible life choices. The Central Board of Secondary Education (CBSE) has been a frontrunner in systematically embedding Life Skills into the school ecosystem. In 2002, it mandated the assessment of students in Life Skills, attitudes, and values as part of its Co-scholastic areas. Skills such as self-awareness, effective communication, and coping with stress were promoted through activities like debates and community service. This was reinforced by the Continuous and Comprehensive Evaluation (CCE) system, representing a major shift from a purely exam-centric model to a more holistic assessment of a child's development.

Beyond the formal school system, various governmental bodies have expanded the reach of Life Skills education. The National Institute of Open Schooling (NIOS) developed vocational courses with embedded Life Skills for out-of-school youth and adults. Concurrently, the National AIDS Control Organisation (NACO) integrated these skills into its adolescent health programmes to promote psychosocial competence and responsible behavior. The objectives of Life Skills education are further echoed in the National Skill Development Mission, which aims to enhance youth employability and entrepreneurial adaptability. The most recent and comprehensive impetus comes from the National Education Policy (NEP) 2020. This policy envisions a transformative shift to competency-based learning, identifying skills like critical thinking, creativity, and ethical reasoning as essential for the 21st century. NEP 2020 promotes experiential and multidisciplinary approaches to make education more applicable to real-life situations. It strongly emphasizes socio-emotional learning and citizenship education, connecting Life Skills directly to both personal growth and national development. Initiatives like the NIPUN Bharat Mission and the introduction of vocational education from an early stage

are key strategies for integrating these skills at all educational levels. Recognizing that teachers are the key to effective implementation, significant efforts have been directed toward capacity building. NCERT, State Councils of Educational Research and Training (SCERTs) and CBSE have developed specialized training modules. Furthermore, digital platforms like DIKSHA, SWAYAM, and ePathshala offer widespread access to online courses and resources, enhancing the ability of both educators and students to engage with life skills.

In summary, India's approach to Life Skills education is a multifaceted and progressive endeavor to redefine learning as a holistic preparation for life. By integrating these skills into curricula, co-curricular activities and teacher development, India aims to cultivate a generation that is not only intellectually capable but also emotionally resilient, socially responsible and ethically grounded. This synergy of policy, institutional frameworks and collaboration reflects a national commitment to empowering every learner with the confidence and compassion to thrive in a complex world.

1.7. Life Skills in Mizoram

Life skills education in Mizoram is a critical component of the state's educational and social development strategy, shaped by its unique socio-cultural context. Nestled in India's Northeast, Mizoram boasts high literacy rates, but its youth face distinct challenges, including geographic isolation, limited economic opportunities and social issues related to the transition from a traditional society to a modern one. In response, Life skills initiatives in the state aim to equip young Mizo students with the resilience, critical thinking, and emotional balance needed to navigate these complexities.

The framework for implementing Life Skills education in Mizoram is primarily guided by national educational policies. The Department of School Education, in collaboration with the Mizoram State Council of Educational Research and Training (SCERT), integrates Life Skills into the state curriculum in alignment with the National Curriculum Framework (NCF) 2005 and the National Education Policy (NEP) 2020.

These policies emphasize holistic learning and focus on developing cognitive, social, and emotional skills among students. Life skills in Mizoram are not taught as a separate subject but are woven into areas such as Value Education, Environmental Studies, and Physical Education. The state also follows the Central Board of Secondary Education (CBSE) model of assessing co-scholastic areas, which includes evaluating essential Life Skills like self-awareness, communication, empathy, and coping with emotions.

One of the most pressing issues that underline the importance of Life Skills education in Mizoram is substance abuse among youth. The state has struggled with high rates of drug and alcohol abuse for decades. Recognizing this, Life Skills programs have been used as a preventive and rehabilitative measure to help young people make informed and responsible decisions. The government, in partnership with non-governmental organizations (NGOs), community groups, and church bodies an influential institution in Mizo society has initiated awareness programs and training sessions aimed at strengthening emotional regulation, decision-making, and resistance to peer pressure. These initiatives extend beyond classroom learning, incorporating community-based workshops, counseling, and outreach programs that promote holistic well-being.

Teacher preparation forms the cornerstone of Life Skills implementation in Mizoram. The SCERT and District Institutes of Education and Training (DIETs) regularly organize in-service training programs for teachers to help them adopt participatory and experiential teaching approaches. These training modules encourage teachers to use interactive methods such as storytelling, role-play, group discussions, and project-based activities rather than traditional lecture-driven instruction. Teachers are also encouraged to utilize digital platforms like DIKSHA, which provide national-level resources and lesson plans tailored for Life Skills education. Such initiatives aim to make classroom learning more engaging, reflective, and meaningful for students.

Despite steady progress, Mizoram continues to face challenges in effectively implementing life skills education. One of the major obstacles is the deep-rooted examination-oriented culture, where academic performance and board exam results are

still considered the primary indicators of success. As a result, skills such as empathy, teamwork, and creativity although emphasized in policy often receive less attention in actual classroom practice. Another challenge lies in the disparity between urban and rural schools. While institutions in Aizawl and other urban centers have better access to resources and trained personnel, schools in remote areas often lack the infrastructure and trained educators necessary to effectively deliver Life Skills programs. Additionally, the shortage of localized teaching materials that reflect the socio-cultural context of Mizoram can limit the impact of such education.

In conclusion, Life Skills education in Mizoram reflects a thoughtful adaptation of national educational policies to meet the state's specific needs. It not only supports academic learning but also addresses critical social concerns like substance abuse and youth empowerment. The coordinated efforts of the SCERT, teachers, NGOs and community organizations demonstrate a shared commitment to nurturing emotionally strong and socially responsible individuals. Although practical challenges such as exam pressure, teacher training gaps and unequal access to resources persist, Mizoram's ongoing efforts to embed Life Skills education within its educational system offer hope for a future generation that is not only literate but also equipped with the resilience, empathy and problem-solving abilities needed to build a progressive and harmonious society.

1.8. Rationale of the Study

The rationale for this study stems from the growing recognition that education must extend beyond academic knowledge to foster the holistic development of learners. This understanding aligns closely with the principles outlined in global frameworks such as those by the World Health Organization (WHO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the United Nations Children's Fund (UNICEF), all of which emphasize Life Skills education as a cornerstone for preparing young people to effectively face real-world challenges. In today's rapidly evolving global landscape, where students are confronted with complex social, emotional, and economic

pressures, the ability to make informed decisions, think critically, manage emotions, and communicate effectively has become just as vital as academic proficiency.

India's National Education Policy (NEP) 2020 represents a significant step in acknowledging and institutionalizing this holistic approach. The policy underscores the importance of integrating Life Skills including critical thinking, problem-solving, creativity, empathy, and resilience into every level of the educational process. However, despite the strong policy emphasis, there remains a considerable gap between policy intent and classroom implementation. Many schools continue to prioritize academic achievement, standardized testing, and rote memorization over skill-based, experiential learning. This imbalance poses a serious challenge to realizing the NEP's vision of nurturing well-rounded individuals capable of contributing positively to society.

In this context, the state of Mizoram provides an especially relevant and compelling setting for study. Mizoram's education system is characterized by both high literacy rates and unique socio-cultural dynamics, including strong community values and the influence of church-based education. However, the state's educational landscape is also marked by structural and contextual diversity, as schools follow either the Mizoram Board of School Education (MBSE) or the Central Board of Secondary Education (CBSE). This dual framework presents a valuable opportunity for comparative analysis allowing the study to examine how Life Skills education is interpreted, integrated, and practiced within two distinct curricular and administrative systems operating in the same socio-cultural environment.

The need for such an investigation becomes even more pressing when one considers the challenges faced by Mizo adolescents. Despite their strong educational foundations, many students struggle with issues such as limited career opportunities, substance abuse, and emotional stress arising from social and economic transitions. These challenges highlight the inadequacy of a purely academic model of education that fails to cultivate coping mechanisms, interpersonal sensitivity, and practical problem-solving abilities. Hence, this study aims to bridge the gap between educational theory and practice

by evaluating how Life Skills so vital to students' overall well-being are embedded in classroom instruction and learning materials.

The study adopts a systematic and empirical approach, analyzing textbooks, curricular frameworks, and student-teacher interactions to assess the degree of Life Skills integration. It also explores the levels of awareness, perception, and preparedness among both students and teachers regarding the significance of Life Skills in education. Through this dual focus, the research identifies the disconnect between the intended curriculum (as envisioned in policy and syllabi) and the implemented curriculum (as practiced in classrooms). Findings from this analysis are expected to reveal an overemphasis on cognitive and academic competencies, often at the expense of emotional and social development. Such an imbalance not only limits the overall growth of learners but also weakens the broader societal goals of inclusion, empathy, and responsible citizenship that form the core of both NEP 2020 and global educational agendas.

The broader justification for this study, therefore, lies in its potential to inform and reform educational practices. By highlighting the discrepancies between policy formulation and pedagogical execution, the research contributes valuable insights for curriculum developers, policymakers, and educators. The comparative analysis between MBSE and CBSE curricula in Mizoram can serve as a model for understanding how regional, cultural, and administrative factors influence Life Skills education across India. Furthermore, the study's findings can help in designing teacher training programs, developing context-sensitive learning materials, and adopting assessment methods that truly reflect Life Skills proficiency rather than rote knowledge.

Ultimately, this research is not only an academic exercise but also a step toward reshaping educational priorities in line with national and global visions. By promoting an education system that values emotional intelligence, ethical reasoning, and social responsibility alongside academic excellence, the study aims to contribute to the creation of a generation of learners who are not merely exam-ready but life-ready capable of

adapting to change, contributing to their communities, and thriving in an increasingly interconnected world.

1.9. Research Gap

The findings of this study reveal several critical research gaps that it seeks to address within the broader framework of Life Skills education in India. One major gap lies in the lack of context-specific and empirical investigations into the integration of Life Skills within the Indian educational system, particularly in the Northeastern region. Although global agencies such as WHO and UNICEF, along with national frameworks like the NEP 2020, emphasize the importance of life skills education, much of the existing research remains conceptual or focuses on generalized national perspectives. There is a notable absence of systematic, data-based analyses that examine how Life Skills are represented in educational materials. This study bridges that gap by conducting a detailed content analysis of both MBSE and NCERT textbooks, offering quantitative and qualitative insights into the representation of the ten WHO-defined Life Skills. By providing a component-wise evaluation, the study moves beyond theoretical discussions, uncovering a significant imbalance that privileges cognitive development while neglecting social and emotional learning dimensions.

Another key research gap concerns the comparative understanding of different educational boards functioning within a shared socio-cultural setting. The pedagogical variations, resource disparities, and structural challenges that distinguish state boards like MBSE from national boards like CBSE have not been adequately examined. This study contributes to filling that void by analyzing how each system integrates and promotes Life Skills education in Mizoram. The comparative findings reveal that while CBSE demonstrates a more organized, activity-based approach supported by better resources, MBSE continues to grapple with exam-oriented practices and limited infrastructure, which restricts the effective implementation of Life Skills-based learning.

A third critical gap is the lack of comprehensive studies linking curriculum content with real-world implementation and stakeholder experiences. Existing research seldom connects textbook analysis with the perceptions and practices of teachers, headmasters, and students. This study overcomes that limitation through a triangulated research design combining textbook evaluation, teacher and student surveys, and interviews with school leaders. By linking the “intended curriculum” with the “implemented and experienced curriculum,” it provides an integrated perspective on why Life Skills education remains unevenly applied. Thus, the study not only identifies the gaps within textbooks but also explains the systemic and pedagogical factors contributing to these shortcomings.

1.10. Research Question

The following research questions are stated to give answers to the present study :

1. How different Life Skills components are explore from the secondary school education syllabus?
2. How are the different Life Skills components incorporated in the CBSE secondary school syllabus?
3. How are the different Life Skills components incorporated in the MBSE secondary school syllabus?
4. How are CBSE and MBSE syllabus compare with reference to Life Skills components?
5. What is the perception of the secondary school teacher on Life Skills components in Mizoram?
6. What are the levels of awareness on Life Skills components of secondary school students?
7. What are the activities implemented in the secondary school education of Mizoram?

1.11. Statement of the Problem

From the above stated points discussed, studying about WHO ten core Life Skills components among the secondary school students and teachers regarding their attitude, their awareness level and how such Life Skills components are incorporated into their syllabus is a big challenges which emerged from the identified gap. Therefore, for the present study, the problem has been stated as, “Exploring the Life Skills Components in the Secondary School Syllabus : An Analytical Study”.

1.12. Objectives of the Study

1. To explore the Life Skills components in the secondary school education syllabus.
2. To analyze CBSE syllabus with reference to Life Skills components.
3. To analyze the MBSE syllabus with reference to Life Skills components.
4. To compare CBSE and MBSE syllabus with reference to Life Skills components of education.
5. To study the perception of the secondary school teacher on Life Skills components.
6. To study the awareness level of secondary school students towards Life Skills components.
7. To find out the activities related Life Skills implemented in the secondary school of Mizoram.

1.13. Hypothesis of the Study

1. There is no significant difference in the perception of Life Skills among secondary school teachers with regards to board i.e., MBSE and CBSE.
2. There is no significant difference among secondary school teachers perception of life skills with regard to Gender i.e., Male and Female.
3. There is no significant difference among secondary school teachers perception of Life Skills with regard to District – wise.
4. There is no significant difference among secondary school teachers perception of Life Skills with regard to Educational Qualification

5. There is no significant difference among secondary school teachers perception towards Life Skills with regard to Locality.
6. There is no significant difference in the Life Skills Awareness Level of secondary school students with regard to Class.
7. There is no significant difference in the Life Skills Awareness level of secondary students with regards to Board.
8. There is no significant difference in the Life Skills Awareness level of secondary students with regards to Family.
9. There is no significant difference in the Life Skills Awareness level of secondary students with regards to Gender.
10. There is no significant difference in the Life Skills Awareness level of secondary students with regards to Locality.
11. There is no significant difference in the Life Skills awareness level of secondary students with regards to economical status of family.
12. There is no significant difference in the Life Skills awareness level of secondary students with regards to parental education.
13. There is no significant difference in the Life Skills awareness level of secondary students with regards to district wise.

1.14. Operational Definition of Key Terms

1.Life Skills Components: In this study, Life Skills components is defined as the systematic inclusion and application of the ten psychosocial competencies identified by the World Health Organization (WHO). These skills are grouped into three broad domains:

- **Cognitive or Thinking Skills:** Critical thinking, creative thinking, problem-solving, decision-making and self-awareness.
- **Social Skills:** Effective communication and interpersonal relationship skills.
- **Emotional or Coping Skills:** Empathy, coping with emotions and coping with stress.

The extent of Life Skills components is determined by identifying the presence of these competencies within textbook content, activities and exercises, as well as through the level of life skills awareness exhibited by students and teachers, as measured by standardized assessment tools.

2. Textbook Analysis: For this research, Textbook Analysis denotes the systematic examination of the prescribed secondary-level textbooks for Classes IX and X in Science, Social Science and Mathematics published by both MBSE and CBSE. The analysis involves a detailed page-by-page review to identify, quantify and categorize explicit or implicit representations of the ten WHO Life Skills across three sections of each chapter: content, activities and questions.

3. Awareness Level of Students: The awareness level of students refers to their self-assessed understanding, recognition and perceived competence regarding the ten core Life Skills. This is quantitatively evaluated using the “Students’ Life Skill Awareness Scale” developed by the researcher. The obtained scores are classified into three categories High, Average, and Low which is based on predetermined statistical criteria.

4. Perception of Teachers: The perception of teachers indicates their personal beliefs, attitudes, and self-evaluation concerning the relevance and their own mastery of life skills. This variable is measured using the “Teachers’ Life Skill Assessment Scale” developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal. Teachers’ scores are analyzed both in total and dimension-wise and are categorized into seven levels ranging from Extremely High to Extremely Low, reflecting their professional mindset and personal skill competence.

5. MBSE (Mizoram Board of School Education) Syllabus: The MBSE Syllabus refers to the official curriculum and textbooks prescribed for Classes IX and X in Science, Social Science, and Mathematics by the Mizoram Board of School Education. These textbooks form the primary qualitative data source for examining the integration of Life Skills within Mizoram’s educational framework.

6. CBSE (Central Board of School Education) Syllabus: In this study, the CBSE Syllabus denotes the textbooks developed by NCERT for Classes IX and X in Science,

Social Science and Mathematics. These serve as the national benchmark for comparative analysis with the MBSE textbooks to evaluate differences in the integration of Life Skills education.

7. Secondary School: Secondary school is the stage of formal education after primary education and prior to higher education. In the present study, secondary education implies the stage of education comprising classes IX and X.

1.15. Delimitation of the Study

1. The study is confined to Mizoram state only.
2. The study is restricted only to secondary level of MBSE & CBSE schools in Mizoram.
3. The study is limited to three subjects viz., Science, Social Science and Mathematics textbook for content analysis.
4. The selection of district is limited to only 5 district as a representation for north, east, south, west and centre of Mizoram.

1.16. Limitation of the Study

1. Owing to time constraints, data collection in some schools had to be done hastily within a short period, leading to certain difficulties.
2. In a few schools, the absence of teachers resulted in fewer responses than the expected number.
3. Although rapport was established during the interview sessions, some respondents were uncomfortable with being recorded, which made it challenging to accurately document their responses during data entry.

1.17. Chapterisation of the Study

Introduction this chapter establishes the foundation for the research by introducing the core subject, its background and the context in which the study is situated. It outlines the rationale, explaining the purpose and justification for the investigation, and underscores the study's overall significance.

Review of Related Literature this section offers a thorough and critical survey of existing academic research and publications connected to the topic. It synthesizes prior work to identify established knowledge, prevailing theories, and gaps in the current body of literature that the present study aims to address.

Methodology give the detailed blueprint of the research is presented. This chapter describes the overall design and strategy of the study, specifying the methods used for data collection, the characteristics of the participants, the instruments employed, and the specific analytical procedures that were followed.

Analysis and Interpretation of Data this chapter is dedicated to processing the gathered information. It involves systematic organization, statistical or thematic analysis, and critical interpretation of the collected data to uncover patterns, relationships, and significant results that address the research objectives.

Findings and Discussion the final chapter consolidates the entire research endeavor. It provides a condensed overview of the study, presents the principal findings derived from the analysis, discusses their educational implications, and proposes recommendations for practical application and future scholarly inquiry.

CHAPTER – 2

REVIEW OF RELATED LITERATURE

2.1. Introduction

This chapter focuses on analyzing the existing literature relevant for the present study. The main objective of the review is to understand the nature and scope of the previous research conducted in the same area. Thereby identifying what has already been explored and where research gap remains. Reviewing related literature not only provides a strong conceptual and theoretical framework for the present study but also offers direction in terms of methodologies, procedures, sources of data and statistical tools that are appropriate for addressing the research problem. By going through this process, the researcher can form research questions and possible explanations that are supported by earlier studies. The review makes use of many sources such as books, theses, journal papers and articles. Thus, with the help of these sources the present study can form the design and shape of the study, keep in connected to existing knowledge and show how it fits within the larger academic discussion.

The review of related literature is further classified into two main sections viz., Research carried out in India and Research conducted in other countries.

1. Research carried out in India on Life Skills education.
2. Research conducted in other countries on Life Skills education.

2.2. Studies in India Related to Life Skills

Kishore and Srikala (2010) conducted a study, “Empowering adolescents with life skills education in schools – School mental health program: Does it work?”. The study aims to promote mental health among adolescents in schools through Life Skills Education (LSE), introducing the innovative approach of engaging teachers as life skill educators. It examines the implementation and effectiveness of the NIMHANS model of life skills

education program. The program's impact was assessed after one year among 605 adolescents from two secondary schools and compared with 423 peers of similar age, gender, and socioeconomic background from schools not involved in the program. Results showed that participants demonstrated higher self-esteem, stronger coping abilities, better overall adjustment especially with teachers and within the school environment and more prosocial behavior. However, no significant differences were found in psychopathology or in adjustment at home and with peers. Additionally, 100 randomly chosen life skill educator-teachers reported observing positive changes in students' classroom behavior and interactions. Integrating LSE into school mental health programs using existing school and teacher resources proved to be an effective approach to empower adolescents.

Munsi, K & Guha, D.(2014).conducted a study on, "Status of Life Skill Education in Teacher Education Curriculum of SAARC Countries: A Comparative Evaluation". Life skills have been integrated into the curricula of many developed and developing countries, with efforts to expand their large-scale implementation. In South Asia, SAARC nations are working to bridge the gap between intended and implemented curricula, aligning with global educational trends. All SAARC countries are incorporating Life Skills Education (LSE) into secondary teacher education, supported by both governments and NGOs. A teacher trained in LSE can address adolescents' health and social challenges while enhancing their quality of life. This paper provides a comparative analysis of secondary teacher education curricula in SAARC countries, focusing on Life Skills-Based Education (LSBE).

Suresh, V & Subramonium, V.(2015) conducted a study on, "Life Skills Education in School Setting". This study highlights a critical gap in the modern school system, where the primary focus remains on improving academic marks in reading, writing, and arithmetic to bolster the school's reputation. Researchers found that this narrow focus neglects essential life skills like communication, decision-making, and coping with stress, leaving students ill-equipped to handle psychosocial challenges, which can lead to severe outcomes like failure and suicidal attempts. While some teachers recognize the value of

life skills education, they are often hindered by time constraints, lack of support from parents and school authorities, and an unwillingness to shift from traditional, teacher-centered methods to participatory, child-centered learning. The study concludes that successfully integrating life skills into the curriculum first requires changing the perceptions of teachers and school administrators about its fundamental benefits for student development.

Karamadi, M.A., Aminabhavi, V.A.(2015) conducted a study on, “Impact of Medium of Instruction on Life Skills of school students”. This study evaluated the life skills of 200 students (13-14 years) in Panaji-Goa. Using the Psychosocial Competence Scale, it found most students (73%) possessed average life skills, with only 11% scoring high and 16% low, highlighting a need for formal life skills training in schools. Contrary to the null hypothesis, the analysis revealed significant differences. Students with English-medium primary education demonstrated superior life skills compared to their mother tongue-medium peers. Furthermore, female students significantly outperformed males. These findings underscore the influence of instructional medium and gender on life skill development.

Murthy, V (2016) conducted a study on, “Issues, Problems and Possibilities of Life Skills Education for School Going Adolescents”. Since the World Health Organization's initiatives, Life Skills Education has captured the attention of numerous professionals and institutions in India. However, the country has yet to adopt a definitive national stance on its role within school education. This lack of a unified position has resulted in varied interpretations and approaches to life skills training across the nation. Consequently, there is a pressing need to build a consensus. It is not too late to establish a common framework to ensure a consistent and effective understanding of how these essential skills should be promoted for all students.

Nanaware and Palanethra (2017) conducted a study titled “Effectiveness of Life Skills Education Program among CBSE and State Board Students: An Exploratory Study”. The

research aimed to examine how effective Life Skills Education (LSE) programmes are in schools, to assess the understanding and impact of LSE among 10th standard students of the Karnataka State Board, and to evaluate the same among 10th standard students of the CBSE board. A random sampling method was adopted, and data were gathered using a standardized questionnaire. The study involved 160 students aged between 14 and 16 years, drawn from the 10th standard student population. The findings highlighted that CBSE students displayed stronger life skills compared to State Board students. Furthermore, it was observed that boys from both CBSE and State Boards performed better in life skills than their respective girl counterparts.

Penthala, T. (2018).conducted a study on, “Life Skills Education Among Secondary School Students Of Jayashankar Bhupalapally District”. Life skills are essential abilities that promote adaptive and positive behavior, helping individuals effectively handle life’s challenges. While the concept varies across societies depending on cultural norms and expectations, core life skills focus on personal well-being and supporting individuals to grow as active, responsible, and productive members of their communities. This paper highlights the significance of life skills education at the secondary level as a vital tool to foster holistic development and prepare students for personal and social success.

Poonam and Anjali (2020) conducted a study titled, “Strategies for Inculcating Life Skills in CBSE Schools of Varanasi City”. This paper highlights the ten core life skills essential for students and examines the strategies adopted by CBSE teachers at the upper primary level in Varanasi to impart and internalize these skills. Using a survey method, data were collected from 225 teachers across 31 purposively selected CBSE schools. The responses, analyzed through content analysis with frequency and percentage, revealed various strategies employed by teachers. These findings can serve as a useful basis for developing effective Life Skills Training Modules.

Tiwari, P., et.al.(2020) conducted a study on, “Effectiveness of life skills health education program: A quasi-experimental study among school students of South India”. A quasi-

experimental study was conducted to assess the impact of a life skills education program on adolescents and to explore how different variables might be linked to the outcomes. The research involved 137 students from an urban school and 137 from a rural school. These students participated in a structured training module founded on the ten core life skills domains established by the World Health Organization, which was delivered through interactive teaching and learning methods. A post-intervention evaluation performed six months later, using a life skills assessment scale, revealed a statistically significant increase in the overall life skills score. Notably, the highest post-intervention mean scores were observed in critical thinking, self-awareness, creative thinking, and interpersonal skills. This marked improvement confirms the program's effectiveness and strongly suggests that integrating such a comprehensive health promotion module into the standard school curriculum would foster the holistic personality development of students, equipping them with essential skills for life.

Chetri, K. (2020).conducted a study on, “Life Skills Education for Adolescents: It’s Needs and Strategies”. Life skills encompass a broad range of psychosocial and interpersonal abilities essential for leading a healthy, productive life. They foster mental well-being and competence, especially among adolescents, who experience significant physical, emotional, social, and cognitive changes during this transitional phase. Teaching life skills at this stage equips youth to communicate effectively, think critically and creatively, and make rational decisions. Such education empowers them to act responsibly within society and handle everyday challenges. Strategies like brainstorming, role play, and group discussions can effectively impart these skills. Providing life skills education to all young people is crucial for building happy, successful lives.

Sharma, N.et.al. (2021).conducted a study on, “A Survey On Life Skill Challenges, Development And Implementation In School Education System”. Education aims to empower youth with life skills to thrive and support their communities. However, implementing effective life skills education (LSE) faces significant challenges. A key issue is its non-graded status in the curriculum, which is compounded by insufficient

teacher training and a lack of dedicated teaching resources. Furthermore, negative attitudes from both parents and students toward LSE present a major obstacle. While life skills are developed across various subjects like Science and Physical Education, and through activities like form meetings, these efforts are often fragmented. The current system requires a more structured, resourced, and valued approach to successfully integrate these essential skills into schooling.

Sharma, K.(2021).conducted a study on, “Inculcation and Promotion of Values Through Life Skills Education at the School Level”. Life skills education plays a vital role in fostering values among students, enabling them to realize their potential and face everyday challenges effectively. Education, therefore, should be value-centered and focused on skill development to nurture a balanced and holistic personality in learners. This study emphasizes the ten core life skills identified by the World Health Organization: self-awareness, empathy, critical thinking, creative thinking, decision-making, problem-solving, effective communication, interpersonal relationships, coping with stress, and coping with emotions. It also discusses classroom strategies such as discussions, brainstorming, and case studies as effective methods to inculcate values through life skills education.

Monika and Ronak. (2022) conducted a study titled, “A Comparative Study Of Life Skills Among Secondary School Students Of Private And Govt. Schools In Sonipat District”. The present study aimed to compare the life skills of secondary school students studying in government and private schools. A random sample of 100 students from both school types in Haryana’s Sonipat district participated. Data were collected using the Life Skills tool by Nair and Ranjan (2014) and analyzed through mean, standard deviation, and t-test. The findings indicated no significant gender-based differences in life skills between students of private and government schools.

Praveen (2022) conducted a study titled, “Alternative and mainstream education in Kerala: A comparative study based on life skills of students”. The study examines the role of

alternative education in strengthening school education in India, with a focus on Kerala. It highlights alternative education as an effective approach to address the evolving demands of public education in a globalized context. Using the Life Skills Inventory (LSI) developed by the researcher, the findings showed that students in alternative education possess stronger life skills compared to those in mainstream schools. The results further suggest that alternative education not only enhances individual quality of life but also contributes to improving the socioeconomic status of the nation.

Malathi (2022) conducted a study titled, “Awareness on Life Skill Education for Employment Opportunity among Prospective Teachers”. The literature review strongly highlights that lack of life skills is a major factor contributing to unemployment. Against this backdrop, a survey was conducted to assess prospective teachers’ awareness of 21st-century life skills, including critical thinking, problem-solving, communication, collaboration, creativity, leadership, guidance, character building, professional ethics, and technology literacy. A sample of 300 prospective teachers from three Colleges of Education in Salem district, Tamil Nadu, was chosen through simple random sampling. The results revealed that their awareness of life skills was low. Therefore, integrating life skills training into the curriculum is essential to enhance their employability prospects.

Sukumar G.M et.al. (2022). conducted a study on, “Effectiveness and Factors Associated with Improved Life Skill Levels of Participants of a Large-Scale Youth-Focused Life Skills Training and Counselling Services Program (LSTCP): Evidence from India”. In a pioneering initiative for mental health promotion in Karnataka, India, a state-wide Life Skills Training and Counselling Services Program (LSTCP) was launched to empower nearly 18 million youth. A pre-post study involving 2,669 participants evaluated this six-day structured program by analyzing changes in life skills scores and levels. The results demonstrated the training's significant effectiveness, with notable increases in post-training scores across almost all life skill domains, except for empathy and self-awareness. Furthermore, the study identified that participants who were older, female, more educated, and those reporting a higher physical and psychological quality of life were more likely

to experience an increase in their life skills. The study concludes that the LSTCP successfully enhances life skills among youth, establishing its modules and processes as a valuable, scalable model for future mental health promotion efforts across the state.

Ravindranath, S., Jacob, A., Talreja, V., & Bhat, S. (2022). conducted a study on, “Effectiveness of Life Skills Intervention for Children From Disadvantaged Backgrounds: Insights Form 4-year Longitudinal Study”. This study evaluated the effectiveness of an After-School Life Skills (ASLS) program for 110 socio-economically disadvantaged students in Bangalore's public schools. The students participated in the intervention from 2014 to 2018, and their life skills were assessed annually. Analysis using repeated measures ANOVA revealed that the ASLS program led to a significant overall improvement in the participants' life skills over the four-year period. While progress was consistent, the year-to-year changes between assessments were not statistically significant. The findings confirm the program's positive long-term impact, underscoring the critical and timely need to integrate structured life skills education directly into the standard school curriculum to benefit vulnerable student populations.

Sanjay, D. et.al., (2022).conducted a study on, “The Status of Life Skills Education in Secondary Schools – An Evaluative Study”. Life skill education is essential for fostering psychological well-being and empowering adolescents to lead effective, satisfying lives by equipping them to cope with various social situations. This study aimed to assess the status of life skills among higher secondary school students in Bihar, Chhattisgarh, and Madhya Pradesh, and to identify which skills are most necessary to overcome educational delays. Data collected from adolescents with a mean age of 16.46 revealed that over half (52%) possessed a medium level of life skills, while 25.7% had high skills and 22% had low skills. The findings confirm that life skill education enables students to make informed decisions, meet social demands, and effectively navigate life's challenges, highlighting its critical role in adolescent development.

Kaur, J & Kaur, M.(2022).conducted a study on, “A Life Skills Intervention for Enhancing Psychological Well-Being of Secondary School Students”. This study examined the effectiveness of a school-based life skills program on the psychological well-being of secondary school students. Using a quasi-experimental design, 80 ninth-grade students received a comprehensive training module developed by the investigator. This module incorporated three activities for each of the ten core life skills defined by the World Health Organization. The program was delivered through 40 daily sessions, each lasting 40 minutes within the school setting. The results demonstrated that this structured life skills training had a significant and positive impact on improving the students' psychological well-being. The findings underscore the value of integrating such programs into school curricula to foster healthy adolescent development.

P.Sudha, T, Mythili. (2022).conducted a study on, “A study on life skills among high school adolescents studying in English and Tamil medium in government school”. This research assessed the life skills of 380 eighth-grade adolescents (13-14 years) in Chennai. The objective was to compare the impact of the medium of instruction Tamil (mother tongue) versus English on these skills. Using a 100-item Life Skills Assessment Scale, the study found that most students possessed an average level of life skills, with very few scoring high and some scoring low, indicating a need to integrate life skills training into the school curriculum. Contrary to the initial null hypothesis, the t-test results revealed a statistically significant difference. Interestingly, adolescents from Tamil-medium schools demonstrated comparatively better life skills than their peers from English-medium schools.

Paul (2023) conducted a study titled, “Impact and Roll of Life Skills Education at Secondary Education Level”. This study aimed to examine the status of life skills among secondary-level students enrolled in both the CBSE board and the West Bengal Board of Secondary Education. The survey method was selected to gather information on students’ life skills. This approach involves collecting data through personal interviews, questionnaires, and discussions. Purposively method was employed and 1330 responses

were collected from the research field. The study revealed that male students generally performed better in most life skills, while female students excelled in empathy and problem-solving. Class nine students showed stronger skills compared to class ten. Semi-urban students consistently outperformed rural and urban peers. English medium school students demonstrated higher overall life skills than Bengali medium students.

Nayak et al. (2023) conducted a study titled, “Life Skills Awareness Of Student Teachers Of Secondary Level In Relation To Gender, Stream Of Study And Exposure To Course”. The study aimed to make young student-teachers aware of Life Skills Education, helping them explore new learning methods, develop problem-solving attitudes, and manage their behavior in different life situations. Using a descriptive survey method, the research involved 80 B.Ed. first and second-year student-teachers (40 male and 40 female) from two teacher education institutions in Odisha. Data were collected through a self-prepared five-point Awareness Scale. For analysis, mean, standard deviation, and t-test were applied. The findings revealed that life skill awareness significantly influences student-teachers in enhancing their personal and professional lives.

Harikrishnan et.al. (2023) conducted a study on, “Life Skills Education For School Children In Aizawl, Mizoram: A Pre-Post Design”. The study evaluated the impact of a five-day life skills education workshop conducted in a school at Aizawl, Mizoram. Using a pre-post design, 164 students participated in the assessment. Findings showed a marked improvement in students’ knowledge after the workshop, with significant gains in understanding life skills, future readiness, and core skill areas. The study emphasized that regular sessions and follow-up on life skills can help reduce psycho-social and academic risks among school children.

Pathan, N. & Amin, J.N. (2023).conducted a study on, “Comparative Analysis of Life Skills Education: Global Perspectives and Challenges in India”. Life skills education plays a vital role in equipping individuals to navigate the complexities of today's world. This paper provides a comparative analysis of the historical development of life skills education

across various countries, highlighting its evolution and significance. It examines the current landscape of life skills education in India, including policies, initiatives, and research findings. Real-life examples are used to illustrate the impact of life skills programs and to address challenges faced during implementation. The paper emphasizes the importance of integrating life skills education into India's education system and society, as well as suggesting future research directions.

Surendran, G. et.al.(2023).conducted a study on, “Effect of life skills education on socio-emotional functioning of adolescents in urban Puducherry, India: A mixed-methods study”. This 2018-19 cluster-randomized trial in Puducherry government schools evaluated a 10-session life skills education (LSE) program against the standard curriculum. The study involved 258 adolescents with a mean age of 13. Quantitatively, while the intervention group showed a slight, non-significant improvement in self-esteem and self-efficacy compared to the control, a significant reduction in conduct problems was observed. Qualitatively, focus group discussions with students and teachers confirmed the program's positive impact, noting benefits in anger management, self-awareness, and responsible behavior. All teachers endorsed LSE. The study concluded that LSE positively influences adolescents' socio-emotional functioning. However, a longer intervention period may be necessary to produce statistically significant quantitative changes. Successful implementation was also noted to depend on supportive syllabus integration and health policies.

Madhavi, R.L. (2023).conducted a study on, “Life Skills Education In Secondary Schools Of Vadodara City”. The 21st-century job market is highly dynamic, requiring individuals to constantly upgrade and adapt their skills, a process that can be both physically and mentally demanding yet unavoidable. To prepare students for this reality, the education system must provide not only subject knowledge but also essential competencies such as communication, problem-solving, interpersonal, and intrapersonal skills—collectively known as life skills. Recognizing this need, India has integrated life skills into curricula, with CBSE issuing guidelines for their implementation nationwide. This paper examines

how CBSE schools in Baroda city organize and manage life skills education programmes to meet evolving employment demands.

Neelam., Thakur, M. (2023).conducted a study on, “A Study Of Life Skills Of Adolescents With Respect To Gender, Type Of School And Residential Background”. This study examined the impact of life skills on male and female adolescents in government and private schools across urban and rural areas of Himachal Pradesh. A sample of 1,200 adolescents was randomly selected from schools in four districts. Data were collected using a Life Skills Scale developed by the researcher and analyzed through descriptive statistics. Results showed no significant differences in life skills based on gender or residential background. However, a significant difference was found between school types, with adolescents from government schools demonstrating higher life skills compared to those from private schools.

Anitha and Lavi (2024). conducted a study titled, “The Life Skills Education Program's Effectiveness among students from CBSE and State Boards: An Exploratory Study”. The paper seeks to examine the background of the effectiveness of school-based life skills education programe and further explore the understanding and impact of teaching life skills within the secondary school state curriculum. A random sampling method was used for the study and a total of 160 responses were collected from the research field by using a standardized questionnaire. The study found that life skills education helps adolescents enhance problem solving and stress management, fostering healthier and more productive lives. CBSE students showed higher competence in life skills than state board students. Researchers concluded that life skills programs benefit students and recommended that their full integration into all school curricula.

Deepika and Mayank (2024) conducted a study titled, “Assessment of life skills among secondary school students of district Nainital, Uttarakhand India”. The paper aims to study the level of life skills among secondary school students with reference to their age, gender and locality. The current study employed a descriptive survey research design and self-

administered life skills questionnaire was developed by the researcher. A total of 800 responses were collected from the research field. The study found that secondary school students in Nainital district, Uttarakhand, demonstrated average levels of life skills. No significant differences were observed based on gender or age. However, locality showed a significant impact, with students from hilly regions displaying stronger life skills than those from the bhabhar areas.

Lalbiakfeli and Vemula (2024) conducted a study titled, “Unraveling the Layers: A Comprehensive Analysis of MBSE Secondary Science Curriculum with a Focus on Life Skills Integration”. This article presents a detailed analysis of the Mizoram Board of School Education (MBSE) Secondary Science Curriculum, focusing on the integration of life skills in the Class IX textbook. The content was examined using the WHO framework of life skills—Thinking, Social, and Emotional—while also considering the NCF 2005 guidelines for an ideal science curriculum. The analysis revealed that the textbook emphasized Thinking Skills, with Critical Thinking making up the largest share, followed by Problem-Solving and Creative Thinking. However, Social and Emotional Skills were largely neglected. Overall, the MBSE science textbook encouraged students to apply critical thinking and understand science both theoretically and in meaningful, real-life contexts.

Mahanta, P et.al.(2024) conducted a study on, “A Study on Life Skills among Adolescents Attending Government Schools”. Adolescence is a critical transitional period involving significant biological, psychological, and social changes. Despite the fact that a vast majority of Indian students attend government schools, there is a notable lack of research evaluating their level of life skills. This study aimed to fill that gap by conducting a cross-sectional assessment of adolescents aged 14, 15, and 16 from government schools using the Life Skills Assessment Scale. After obtaining necessary ethical approvals and participant consents, the collected data were statistically analyzed. The findings revealed that 14-year-old students possessed significantly lower life skills compared to their older peers. Furthermore, parental education was found to have a substantial impact on skill

development, and students from lower socioeconomic backgrounds demonstrated poorer life skills than those from middle-class families. These results underscore significant disparities in life skills acquisition linked to age and sociodemographic factors. Consequently, the study strongly advocates for the urgent integration of a structured life skills-based curriculum within the government school system to address these gaps and support the holistic development of all students.

Mehta N, Kapoor H.(2024) conducted a study on, “Validating Tools to Measure Life Skills Among Adolescents in India”. This study aimed to evaluate the reliability, factor structure, and validity of several psychological scales intended to measure the effectiveness of a life skills program for Indian adolescents. Using baseline data collected from over 16,000 participants aged 11 to 15, the research focused on scales for gender attitudes, self-efficacy, resilience, and problem-solving. Statistical analyses, including principal component analysis, confirmed that each scale represented a single, cohesive factor. Subsequent confirmatory factor analysis demonstrated an excellent model fit for all scales, and importantly, these measurement models were found to be gender-invariant, meaning the scales functioned identically for both boys and girls. The analysis also revealed specific relationships between the constructs: a positive correlation was found between gender attitudes and self-efficacy, while resilience showed negative correlations with both gender attitudes and self-efficacy. These findings confirm the robustness of the assessment tools for use in the subsequent evaluation of the Magic Bus India Foundation's life skills intervention, providing a validated foundation for measuring the program's impact on the participating adolescents.

Devi, J., Anuradha & Shweta (2024).conducted a study on, “A Study of the Life Skill of Higher Secondary School Student in Relation to Self-Concept”. This study explored the relationship between self-concept and life skills among 200 higher secondary students from Kanya Gurukul Senior Secondary School in Sonipat, with an equal number of participants from grades 11 and 12. Data were gathered using established rating scales for self-concept and life skills. The analysis revealed a low positive correlation between the

two variables. Based on this finding, the study concludes that students with more developed life skills tend to possess a higher level of self-concept. This suggests that fostering life skills in an educational setting can be a valuable strategy for enhancing students' overall self-perception and confidence.

Monika & Minakshi. (2024).conducted a study on, “The Impact of Life Skills and Education Adjustment Among Students: A Study of Central Part of India”. This study in central India examined how life skills influence students' educational adjustment, including their ability to manage academic challenges and succeed in school. Using a mixed-methods approach, the research found a strong link between key life skills—such as communication, problem-solving, and emotional regulation—and positive outcomes like better academic performance, improved attendance, and enhanced overall well-being. The findings emphasize the vital role that schools and teachers play in delivering life skills education. This research supports the development of targeted interventions and curriculum improvements to foster the holistic development and academic success of students in the region.

Munir, S. et.al.(2024).conducted a study on, “Life skills development in students at secondary level in Punjab: a need analysis”. This study examines secondary-level students' life skills development and compares differences by gender using Kadesjo et al.'s (2017) Social Skills Development and Behaviour Model (SSDBC), which includes empathy, teamwork, emotions, communication, physical appearance, relationships, and confidence. A quantitative, descriptive survey design was employed. The population comprised male and female teachers from Punjab government schools, and a stratified random sampling method was applied, selecting 20% from each stratum. Data were collected using an adapted SSDBC checklist. Findings showed that 62% of students had above-average life skills, with females scoring higher than males. Recommendations include fostering friendly classrooms and conducting life skills workshops.

Ering, M. et.al. (2024).conducted a study on, “Assessment and Enhancement of Life Skills among Higher Secondary Students in Tirap District of Arunachal Pradesh: A Gender Perspective”. This research investigates life skills among higher secondary students, with particular attention to gender differences. Life skills are understood as essential personal abilities that enable individuals to face challenges positively and perform effectively within their capacities. They are vital for realizing one’s potential efficiently. The study employed a descriptive survey method, using systematic random sampling to select 240 students from Tirap district. Data were gathered through a Life Skills Tool developed by the researcher. Findings revealed that a large proportion of students demonstrated average levels of life skills, and a significant gender-based difference was observed between boys and girls.

Thippeswamy et.al. (2025) conducted a study titled, “ Life skills among school-going adolescents in South India: A gender comparison”. This study aims to investigate how life skills differ between male and female adolescents, difference in the sociodemographic variables of grade 8 and 9 students in school in South India specifically Udupi. Karnataka. Stratified random sampling method was employed for the study and data were collected by using a standardized scale with a sample of 594 students from two schools from both rural and urban. The findings of the study reveal that female students handle stress better than male students. Thus, strengthening life skills in schools supports prevention and mental health promotion. Early identification of needs enables effective training. Hence, integrating life skills into school curriculum can build resilience, improve well-being and foster healthier learning environments for students.

Sheenu (2025) conducted a study with the titled, “ Life Skills Awareness among Teachers in the Schools of Kerala”. The study aimed to assess life skills awareness among 500 school teachers in Kerala across primary, secondary, and higher secondary levels using a descriptive survey and the Life Skills Awareness Inventory. Results showed only a small proportion had high awareness, while most had low awareness. The findings highlight the

need for teachers to strengthen life skills awareness to deliver quality, innovative education and help students think analytically and critically.

Tagat, A., Balaji, A. & Kapoor, H.(2025) conducted a study on, “The impact of life skills education on socio-emotional development and school-related outcomes among adolescents in India”. The study was conducted to understand the current situations in which Magic Bus India Foundation's Childhood to Livelihood (C2L) program is a three-year initiative designed to equip adolescents aged 11 to 15 with essential life skills, focusing on education, gender equality, and socio-emotional development. A comprehensive study across five Indian sites evaluated its impact using data collected at the start (baseline), 18 months (midline), and three years (endline). Analyzing a large sample of children, the research found significant positive outcomes. In the short term, the program improved school attendance, aspirations, egalitarian gender attitudes, and self-efficacy. These benefits were sustained and enhanced over the long term, with notable increases in self-efficacy, resilience, and progressive gender attitudes, alongside a substantial 66.5% increase in the likelihood of regular school attendance, confirming the program's effectiveness.

Mishra, P & Pandey, C.(2025).conducted a study on, “Life Skills Of Senior Secondary Level Students”. A study of 318 higher secondary students in Prayagraj city investigated their life skills proficiency. The findings revealed a significant difference in skills between male and female students, and more notably, between students from rural and urban areas, different educational boards, and government versus private schools. The research concludes that these disparities highlight a critical need to reform teaching methods. By shifting to student-centered learning that integrates life skills like critical thinking, problem-solving, and communication directly into the curriculum, schools can significantly enhance students' overall development. This approach is essential to equip students with the analytical thinking, resilience, and interpersonal abilities needed to navigate personal, academic, and future professional challenges effectively.

Tagat, A, et.al.,(2025).conducted a study on, “The impact of life skills education on socio-emotional development and school-related outcomes among adolescents in India”. A study of Magic Bus India Foundation's three-year "Childhood to Livelihood" program assessed its impact on adolescents aged 11 to 15. Using data from multiple Indian sites, researchers analyzed short and long-term outcomes for thousands of children. The results demonstrated the program's significant positive effects. In the short-term, participants showed improved school attendance, aspirations, self-efficacy, and more egalitarian gender attitudes. These benefits were sustained and even enhanced over three years, with notable long-term increases in self-efficacy, resilience, and a substantial rise in regular school attendance. The findings strongly indicate that integrating such socio-emotional learning into curricula can effectively improve key educational and developmental outcomes for youth in resource-constrained environments.

Yadav, S.L. (2025).conducted a study on, “Study of Awareness Towards Life Skill Education among Secondary-level Students”. Life skills emphasize the exchange of knowledge, attitudes, and interpersonal abilities within education, aiming to equip students with diverse competencies to face life’s challenges confidently. According to the World Health Organization, life skills are positive behaviors that enable individuals to adapt and respond effectively to everyday demands. They help promote constructive behavior, resilience, and well-being. Since life is a valuable gift, nurturing it with essential skills fosters happiness, peace, and prosperity. This study analytically explores life skills among secondary students, focusing on the influence of living conditions, gender, and social class, while suggesting further research into additional contributing factors.

2.3. Studies outside India Related to Life Skills

Durlak JA, et.al.(2011).conducted a study on, “The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions”. Based on a meta-analysis of 213 school-based social and emotional learning (SEL) programs, this study provides robust evidence for their effectiveness. Involving 270,034 students,

the analysis found that participants showed significantly improved skills, attitudes, behavior, and academic performance—equivalent to an 11-percentile achievement gain. Programs led by existing school staff were successful, with outcomes being strongest when key training practices were used and implementation issues were minimized. These findings strongly advocate for integrating evidence-based SEL into standard education to foster the healthy development of all children, offering valuable insights for educators and policymakers.

ABOBO, F & ORODHO, J.A.,(2014).conducted a study on, “Life Skills Education in Kenya: An Assessment of the Level of Preparedness of Teachers and School Managers in Implementing Life Skills Education in Trans- Nzoia District, Kenya”. Although the Ministry of Education in Kenya has made Life Skills Education (LSE) compulsory in basic education, its effective implementation faces several challenges. This study investigated the preparedness of teachers and school managers in secondary schools in Trans-Nzoia West District. Specifically, it examined teachers’ training, attitudes of both teachers and students, and the adequacy of teaching resources. Using a descriptive survey design, data were collected from 15 principals, 30 teachers, and 180 students. Analysis revealed that most teachers lacked training in LSE and displayed negative attitudes, while students showed positive attitudes toward learning LSE. Teaching resources, though present, were largely inadequate. The study concluded that teacher preparedness was low, hindering implementation, and recommended enhanced training and provision of instructional resources.

Abdi and Davoudi. (2015) conducted a study title, “Investigating the Relationship between Life Skills and Academic Achievement of High School Students”. This study examined the relationship between life skills and academic achievement among high school female students in Zanjan. Data were gathered using three questionnaires measuring problem-solving, decision-making, and effective communication skills, with reliability scores of 0.82, 0.89, and 0.78, respectively. From a population of 3,418 students, 345 were selected through stratified random sampling. The research was applied

in purpose and descriptive-correlational in design. Analysis using descriptive and inferential statistics revealed that both academic achievement and the three life skills were at a desirable level, though significant differences appeared across demographic variables. Furthermore, problem-solving, decision-making, and communication skills showed a significant positive relationship with academic achievement and were strong predictors of it.

Tufail et.al. (2016) conducted a study titled, “Analysis Of Textbook Of Biology For Higher Secondary Students With Reference To 21st century Life Skills”. The study examined the higher secondary school Biology textbook published by the National Book Foundation, Islamabad (Pakistan), to assess its alignment with 21st-century competencies such as creativity, critical thinking, collaboration, flexibility, and responsibility. The findings revealed that the textbook does not fulfill these modern educational demands for secondary-level learners. The study recommended revising both the content and teaching approach of the Biology textbook to better reflect the life skills required in the 21st century. This research is valuable for curriculum developers as well as Biology teachers.

Masri, et.al. (2016) conducted a study with a titled, “The Inclusion of Life Skills in English Textbooks in Jordan”. This study focused on analyzing the Action Pack English textbooks for grades 5, 6, and 7 to examine the presence of life skills and to determine their frequencies and percentages in each text. The sample consisted of the English textbooks from the Action Pack series for these three grades. The life skills analyzed included decision-making, problem-solving, creative thinking, critical thinking, effective communication, interpersonal relationships, self-awareness, and coping with emotions. The results showed that life skills were distributed randomly across the textbooks without a clear strategy. The highest proportion was 55.8% for effective communication in the Grade 6 book, followed by 44% for problem-solving in the Grade 7 book, and 43.7% for effective communication in the Grade 5 book. Based on these findings, the study recommended developing systematic criteria for the structured distribution of life skills in textbooks.

DeJaeghere, J., & Baxter, A. (2016). Reframing Life Skills: From an Individualistic to a Relational Transformative Approach, This chapter critiques the prevailing individualistic model of life skills education, which tasks youth with overcoming systemic issues like health crises or violence through personal skill acquisition. It argues that such problems are rooted in broader social, economic, and environmental inequalities, not just individual behavior. Proposing a transformative alternative, the chapter advocates for a critical and relational approach. This involves re-evaluating the implicit values taught—such as self-reliance—and consciously reframing life skills around collective values like justice, equity, and peace. The conclusion demonstrates how common life skills can be reoriented to foster a more just and sustainable society, enabling youth to thrive within their complex realities.

Yitbarek, S.et.al. (2016).conducted a study on, “Life Skills Education in Ethiopia: Afar Pastoralists’ Perspectives”. This study examines the failure of standard school-based education to meet the needs of Ethiopia's Afar pastoralists, who comprise up to 18% of the population. The analysis focuses on the relevance of the current curriculum, evaluating it against four dimensions essential for pastoralist communities. It investigates which life skills are most valued by the Afar people and assesses how well these are integrated into the existing educational framework. The chapter concludes by proposing a reconceptualization of life skills education, recommending curriculum adaptations that align pastoralist values—such as mobility, environmental knowledge, and collective wellbeing—with national and international development goals to create a more relevant and equitable education system.

Prajapati et.al. (2017) conducted a study with the titled, “Significance of Life Skills Education”. This paper highlights the importance of life skills education and its role in developing students’ social, emotional, and thinking abilities key foundations for responsible citizens who can face future challenges. Adolescence is a stage of high potential, yet many youths fail to use it fully due to issues like poverty, unemployment, drug abuse, stress, and social pressures. Modern challenges such as competition,

insecurity, and global crises demand an education system that goes beyond academics. Life skills education bridges the gap between basic functioning and capabilities, empowering individuals to handle societal demands effectively. By integrating life skills training, students can better manage difficulties and lead healthier, more responsible lives.

Taylor RD, et.al. (2017).conducted a study on, “Promoting Positive Youth Development Through School-Based Social and Emotional Learning Interventions: A Meta-Analysis of Follow-Up Effects”. This meta-analysis of 82 universal school-based SEL programs, encompassing 97,406 students from diverse backgrounds globally, confirms the long-term benefits of this education. Follow-up data collected from six months to 18 years post-intervention showed that participants exhibited significantly stronger social-emotional skills, positive attitudes, and overall well-being compared to control groups. These positive outcomes were consistent across race, socioeconomic status, and geographic location. The development of social-emotional skills was the most significant predictor of long-term well-being. Furthermore, SEL contributed to improved critical life outcomes, including higher graduation rates and safer sexual behaviors, demonstrating its profound impact on shaping healthy developmental pathways for youth.

Nasheeda, A.et.al. (2018).conducted a study on, “A narrative systematic review of life skills education: effectiveness, research gaps and priorities”. A systematic review of global life skills education reveals a stark contrast between developed and developing nations. In developed countries, programs are typically systematic, well-researched, and focused on fostering positive youth development. Conversely, implementation in developing countries is often fragmented, lacking sustained evaluation and monitoring, which results in only short-term outcomes. This comprehensive analysis highlights the urgent need for more structured and sustainable program delivery in developing regions. The review's findings provide crucial insights for administrators, policymakers, and educators, serving as a foundation for designing effective life skills initiatives that ensure the lasting transfer of essential knowledge and competencies to youth.

Ashraf et.al. (2021) conducted a study with the titled, “Analysis of Social Responsibility Skills with Reference to Life Skills in Secondary School Curriculum”. The aim of this research was to examine the inclusion of Social Responsibility skills, considered a key area of life skills, in the secondary-level curriculum. Data was gathered through content analysis of the curriculum and National Education Policy, along with expert opinions, using a checklist comprising various components of Social Responsibility skills. A Chi-Square test was applied to compare these three data sources. The results showed a significant difference among them ($\chi^2 = 155.12$, $df = 2$, $p < .001$), indicating that Social Responsibility skills are lacking in the secondary-level curriculum despite their emphasis in the National Education Policy. Expert opinions further reinforced the findings from the content analysis.

Defitrika and Mahmudah (2021) conducted a study with the titled, “Development Of Life Skills Education As Character Building”. This study examines the integration of character education through life skills education at Pondok Pesantren Modern Muhammadiyah Boarding School (PPM MBS) Yogyakarta. Using a qualitative ethnographic approach, data were collected through interviews, observations, and documentation, and analyzed through reduction, presentation, and conclusion stages, with triangulation applied for validity. The findings highlight how character education is reinforced by life skills programs that focus on personal growth and the cultural development of the boarding school. The study further suggests implementing diverse life skills initiatives to strengthen character education strategies in formal school settings.

Kirchhoff, E., & Keller, R. (2021).conducted a study on, “Age-specific life skills education in school: A systematic review”. This systematic review analyzed school-based life skills programs to determine if their content varies by student age. The findings revealed a clear developmental shift: programs for younger children focus more on behavioral and affective skills, while those for adolescents target a broader skill set and incorporate more complex social and cultural health influences. Although life skills education is a popular strategy for promoting student well-being and self-regulation, the

review of 18 programs found limited evidence regarding their long-term effectiveness. The study concludes that while these initiatives are valuable, particularly for adolescents, further research is crucial to establish how to create sustainable life skills development for all age groups.

Shah, et.al. (2022) conducted a study with the titled, “Analysis Of English Textbook With Reference To Life Skills’ Content Of 10th Grade”. This study evaluated the Grade 10 English textbook for life skills integration and explored gender-based differences in teachers’ perceptions. Using the WHO (2009) life skills framework, data were collected from 160 public secondary school teachers (80 male, 80 female) through simple random sampling. Results showed that male teachers found gaps in decision-making, stress management, and problem-solving, while female teachers highlighted deficiencies in critical thinking and interpersonal relationships. Overall, perceptions were similar, with differences mainly in critical thinking and problem-solving. The study recommended strengthening these skills through student-centered activities.

Azizkhani et.al. (2022) conducted a study with the title, “A Content Analysis Exploring Life Skills Components in Elementary School Social Studies Textbooks”. This study aimed to examine the frequency and significance of life skills components in social studies textbooks. Using content analysis, sentences and images were selected as the units of analysis. The population included all elementary school social education textbooks from 2021, with the entire set considered as the sample. Data were collected using a researcher-designed checklist and analyzed with MAXQDA software. To compare frequencies, Chi-square and Shannon’s Entropy methods were applied. Findings showed that life skills appeared most frequently in the sixth-grade textbook (1,048 cases), followed by the fifth grade (908 cases), and least in the fourth grade (401 cases). The Chi-square test confirmed significant differences in frequencies across grades. Shannon’s Entropy analysis further revealed that creative thinking had the highest importance, while self-awareness ranked lowest. Overall, the results provide valuable insights for designing school-based strategies to strengthen life skills education.

Mufarokah et.al. (2022) conducted a study with the title, “The Life Skills Education Policy Model in *Pesantren*-Based Schools”. This study examined the formulation model of life skills education policy in *Pesantren*-Based Schools in Indonesia through qualitative multi-case analysis of three institutions. Data were gathered via interviews, observations, and documents, analyzed using Spradley’s techniques and validated through credibility, dependability, confirmability, and transferability. Findings show the policy model emerges from government regulations, school characteristics, and global challenges. The process involves 11 steps, from drafting and stakeholder coordination to policy testing, revision, finalization, socialization, and implementation. Overall, *Pesantren*-Based Schools demonstrate openness in preparing students to be both religiously grounded and equipped with essential skills for global competitiveness.

Giang et.al. (2022) conducted a study with the title, “Life skills education capacity structure of teacher in the context of current education innovation”. The current general education reform has specified the quality and competency goals students must achieve, highlighting the integration of life skills across all levels. This reform places new demands on high school teachers’ ability to deliver life skills education. Therefore, teacher training institutions need to focus on developing this capacity in their students. This article examines the structure of life skills education competence in pedagogy students, providing a foundation for teacher training programs to strengthen this capacity and align with the requirements of the 2018 general education curriculum reform.

Giang et.al. (2022) conducted a study with the title, “Designing Skills for Life Skills Education Plan of Pedagogical Students in Vietnam”. The Ministry of Education and Training of Vietnam, along with schools, has prioritized organizing educational activities especially life skills education following the 2018 general education program, which emphasizes life skills as key to achieving student learning goals. This reform places higher demands on high school teachers’ capacity to teach life skills, raising concerns about their readiness. Consequently, researchers have studied this issue to propose ways to strengthen life skills education for both teachers and pedagogy students. In this context, the article

focuses on developing pedagogical students' ability to design life skills education activity plans, offering a practical basis for improving their competence in line with current reforms.

Gür and Karaoğlu (2022) conducted a study with the title, "Comparison of the effect of life skills education and acceptance and commitment on happiness and responsibility of physical education students". This study compared the effects of life skills education and Acceptance and Commitment Therapy (ACT) on the happiness and responsibility of physical education students. A semi-experimental pre-test–post-test design was used with two experimental groups and one control group. The sample included 45 female students from the Physical Education and Sports Teaching Department in Kilis (Türkiye) who had low scores on the Oxford Happiness Questionnaire and the California Psychological Responsibility Scale (CPI-R). They were randomly assigned into two experimental groups (15 each) and one control group (15). The first group received life skills training (eight sessions, two per week, one hour each), the second group received ACT sessions of the same duration, and the control group received no training. Before and after the interventions, participants completed the Oxford Happiness Questionnaire and CPI-R. Data were analyzed using MANCOVA. Results showed significant improvements in happiness and responsibility for the ACT group compared to the life skills group, and for the life skills group compared to the control group ($p < 0.05$). Overall, ACT proved more effective than life skills education in enhancing students' happiness and responsibility.

Amer and Singha (2023) conducted a study with the title, "The Life Skills Included in Secondary Stage English Language Textbooks in Jordan". This descriptive-analytic study investigated the inclusion of life skills in secondary-level English language textbooks. The researchers adapted a classification model of life skills suitable for Jordanian learners while aligning with international frameworks, resulting in nine domains. A content analysis card was developed to gather relevant data. Findings revealed considerable variation in how the nine domains were presented across the textbooks, with inconsistencies even within single domains. The distribution results were as follows:

effective communication (30.11%), interpersonal relationships (12.27%), problem-solving (11.28%), self-awareness (10.67%), decision-making (10.32%), coping with stress and emotions (6.97%), creative thinking (6.82%), coping with emotions (6.67%), and critical thinking (4.89%). The results highlighted a strong emphasis on communication, while other skills received limited attention. Overall, the study indicated the absence of a clear strategy for balanced integration of life skills in these textbooks.

Lenzen et.al. (2023) conducted a study with the title, “Teaching Life Skills in Physical Education within Different Teaching Traditions: A Narrative Review”. This narrative review examines recent studies on life skills development in physical education (PE), focusing on the types of life skills programmes, their links to four PE teaching traditions (PETTs), their use across different contexts (primary, secondary, and teacher education), and the tensions between teaching subject knowledge and fostering life skills. Following a selection process similar to systematic reviews, 13 relevant studies were identified. The findings reveal that life skills in PE are addressed through three types of programmes— isolated, juxtaposed, and integrated—each connected to PETTs such as sport techniques, health education, values and citizenship, or physical culture education. The choice of programme type and targeted life skills appeared independent of the context. However, the relationship between subject knowledge (particularly sports and motor skills) and life skills varied depending on the specific combinations used.

Nguyen et.al. (2023) conducted a study with the title, “Life Skills Education for Junior High School Pupils in Ho Chi Minh City”. This study examines Life Skills education activities and suggests practical measures to improve their implementation in schools. A survey of 45 participants including life skills teachers, junior high school teachers, and students was conducted using both qualitative and quantitative methods. Findings indicate that schools show strong interest in Life Skills education and apply various approaches to organize related activities effectively. However, several challenges still hinder their success. To address this, the study proposes six groups of measures aimed at enhancing

life skills education for junior high school students, helping them develop essential skills to live more effectively and harmoniously with others.

Cipriano, C. et.al.(2023).conducted a study on, “The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based SEL interventions”. This systematic review and meta-analysis synthesizes evidence on universal school-based SEL interventions from 424 studies (2008-2020) across 53 countries, involving over 575,000 students from kindergarten to grade 12. The findings confirm that participants in these programs demonstrated significant improvements compared to controls across multiple domains. These gains included enhanced social-emotional skills, positive attitudes, improved behaviors, better peer relationships, a more positive school climate, and higher academic achievement. The analysis also revealed that the content, features, and implementation quality of the interventions significantly influenced their effectiveness. The study underscores the value of SEL programs and discusses implications for advancing related research, policy, and educational practice.

Greenberg, M. (2023). conducted a study on, Evidence for social and emotional learning in schools”. A strong consensus exists among educators and policymakers that education must cultivate students' social and emotional capacities. Schools frequently implement Social and Emotional Learning (SEL) programs to build these essential competencies. A synthesis of 12 major meta-analyses confirms that evidence-based SEL programs consistently produce significant positive effects. Students from PreK through 12th grade demonstrate improved social-emotional skills, stronger academic engagement and performance, and more positive behaviors. Concurrently, these programs reduce conduct issues and psychological distress. These beneficial outcomes are robust and apply universally to students regardless of gender, racial or ethnic background, socioeconomic status, or other demographic characteristics.

Sherif Y et.al.(2023).conducted a study on, “Effectiveness of Life Skills Intervention on Depression, Anxiety and Stress among Children and Adolescents: A Systematic Review”.

This systematic review evaluated the impact of life skills education on depression, anxiety, and stress in children and adolescents. After screening 2,160 articles, 10 studies involving 6,714 participants were analyzed. The findings demonstrated that life skills interventions consistently produced a positive effect, significantly reducing symptoms of these common mental health disorders. The results underscore the value of these programs in diverse settings. However, the review calls for developers and policymakers to support the implementation of culturally sensitive, age-appropriate, and gender-considered modules. Further research is also recommended to investigate the long-term effectiveness of such interventions.

Darlington-Bernard A,et.al.(2023).conducted a study on, “Defining Life Skills in health promotion at school: a scoping review”. Despite being a cornerstone of school health promotion for decades, a unified definition of "Life Skills" remains elusive. This scoping review, analyzing 55 English and French publications, found a proliferation of diverse and numerous terms used to define the concept. The research concluded that there is no single, consensual, conceptual definition for Life Skills. This lack of consensus is attributed to the fact that Life Skills exist at the intersection of multiple academic and professional fields, leading to various taxonomies and purposes. Consequently, the study argues that achieving a universal definition is likely unattainable due to these fundamentally different research perspectives, which also complicates the evaluation of Life Skills programs.

Itute, N. et.al. (2023).conducted a study on, “The Influence of Training of Teachers in Life Skills Education on Implementation of Life Skills Curriculum in Public Secondary Schools In Kenya”. This study examined how teacher training in Life Skills Education (LSE) influences the implementation of the LSE curriculum in public secondary schools in Matinyani Sub-County, Kitui County, Kenya. Guided by Social Cognitive Theory, it employed a descriptive survey design, targeting all 26 principals, life skills teachers, and the Sub-County Director of Education through census sampling. Data were collected via interviews and questionnaires, and analyzed using descriptive statistics and thematic analysis. Results showed that 95.7% of principals reported no trained LSE teachers in their

schools. The study recommended government support through capacity building, workshops, seminars, and both pre-service and in-service training.

Hvalby, L.et.al. (2024).conducted a study on, “Life Skills in Compulsory Education: A Systematic Scoping Review”. This systematic scoping review maps 50 empirical studies (2013-2023) on life skills in compulsory education. The research primarily focuses on evaluating life skills programs and interventions for adolescents. Findings indicate that life skills are predominantly defined by both the specific type of skill and its intended outcome for the individual. A key trend identified is a strong emphasis on an individualistic perspective, with a notable lack of collectivistic viewpoints that consider community and societal well-being. The review concludes by suggesting future research should incorporate more collectivistic perspectives, connect life skills to broader concepts like lifelong learning, and explore interventions for younger children to foster more sustainable and societally beneficial outcomes.

Almosawi and Rashk.(2025) conducted a study on, “Analyzing the Effects of Learning English for Iraq on Developing Students' Life Skills”. The study investigated the effectiveness of the Iraqi EFL textbook *English for Iraq* in developing life skills among ninth-grade students in Maysan intermediate schools. Using a questionnaire administered to both students and teachers, the research focused on five life skill categories: communication, personal/social, leadership, critical thinking, and decision-making/problem-solving. Statistical analysis of responses revealed that the textbook is particularly effective in fostering personal and social life skills, with over half of the participants acknowledging its role in developing students’ personal identity and two-thirds recognizing its contribution to raising awareness of social and cultural values. However, the textbook was found less effective in enhancing other life skill areas.

EKİZ (2025) conducted a study titled, “Analysis of Life Skills of Students Studying in Hatay Mustafa Kemal University”. This study examined differences in life skills among students from various departments at Hatay Mustafa Kemal University using a scanning

model and 210 voluntary participants. Data were collected via the Life Skills Scale (Polat & Balaman, 2017) and analyzed with non-parametric tests. Results showed men scored higher in coping with emotions and stress, while no gender differences appeared in overall life skills. Students in Physical Education and Sports Teaching had higher total Life Skills. Significant differences were found in coping, empathy, self-awareness, and creative/critical thinking, but not in decision-making, problem-solving, communication, or interpersonal skills. The study recommends integrating Life Skills, stress coping and teamwork-enhancing activities into curricula.

Isaken, A.R.et.al. (2025).conducted a study on, “Life skills education as a balancing act: Preparing students to handle life challenges in upper secondary English and social science classrooms”. In a post-pandemic era marked by conflict and digitalization, fostering resilient adolescents is crucial. However, tangible integration of Life Skills Education (LSE) into classrooms remains limited globally. A study observing 18 Norwegian upper secondary classrooms investigated how LSE was naturally incorporated into English and social science lessons to help students navigate personal, societal, and future-oriented challenges. Findings indicated that LSE was more prevalent in English classes than in social science, and more common in general academic tracks compared to vocational programs. These insights provide valuable guidance for effectively embedding LSE into educational pedagogy and policy.

Bano, S., Deebe, F. (2025).conducted a study on, “A Gender Based Analysis of Life Skills among Prospective Teachers in Universities of Pakistan”. This study investigated gender differences in life skills among 1,788 prospective teachers in Pakistani universities. It aimed to fill a literature gap concerning the role of gender in the life skills development of teacher candidates. The findings revealed a significant overall correlation between gender and life skills. Specifically, differences were found in three areas: female prospective teachers demonstrated stronger communication skills, interpersonal relations, and ability to cope with emotions. However, no gender-based differences were detected in other critical skills, including decision-making, problem-solving, empathy, self-

awareness, and creative and critical thinking. The study concludes that while gender plays a role in certain interpersonal and emotional competencies, core cognitive Life Skills are developed equally. It recommends further research in other contexts to deepen this understanding.

2.4. Conclusion

Based on the given reviews, research on Life Skills Education (LSE) in India and Internationally consistently demonstrates its significant positive impact. Studies confirm that structured LSE programs effectively enhance students' social-emotional skills, psychological well-being, academic performance and resilience, while reducing conduct problems and mental health issues. A recurring finding in the Indian context is the existence of disparities in Life Skills acquisition. Students from Central Boards (like CBSE) often show higher competence than those from State Boards, and differences are also observed based on locality, socio-economic status, and type of school (government vs. private). Findings on gender are mixed, with some studies showing boys outperforming girls and others indicating the reverse for specific skills like stress management. A critical challenge identified is the gap between policy and implementation. Barriers include insufficient teacher training, low awareness among educators, a lack of dedicated resources, and the non-graded status of LSE in curricula. The reviews universally recommend the systematic integration of a structured, evidence-based Life Skills curriculum into the standard school system, supported by robust teacher training, to ensure holistic student development.

CHAPTER 3

METHODOLOGY AND RESEARCH PROCEDURE

3.1. Introduction

A well-structured and systematically carried out educational research demands the use of an appropriate methodology. The primary purpose of research is to seek answers to questions through the application of scientific methods. Its aim is to uncover hidden truths and generate new knowledge. In essence, research is a logical and systematic process of inquiry that utilizes defined tools, techniques and statistical methods to arrive at reliable and valid solutions to problems. Accordingly, a suitable methodology was designed to achieve the objectives of this study.

In this study, a mixed method approach is adopted and followed. The methods and procedures adopted for the research are presented in detail in this chapter, with specific focus on the population, sampling techniques, research instruments, methods of data collection and data analysis procedures. An effort has been made to present the research methodology in a well-structured and coherent manner.

3.2. Research Design

A research design is a systematic plan to study a scientific problem, ranging from qualitative to quantitative, experimental to non-experimental, and encompassing systematic reviews, meta-analysis, qualitative research, basic sciences research, translational and implementation research (Indu, P., & Vidhukumar, K. 2020).

Thus, prior to the nature of the study, ***exploratory sequential mixed research design*** is considered as the most appropriate methods for the study. Since this study followed mixed methods design, the study is done in a two phase process where qualitative study and findings are focus first then followed by the quantitative study to give meaning to the data.

QUAL → quan : The first step for the study consisted of analyzing the secondary school syllabus of MBSE and CBSE boards textbook which was then followed by collecting and analyzing the quantitative data.

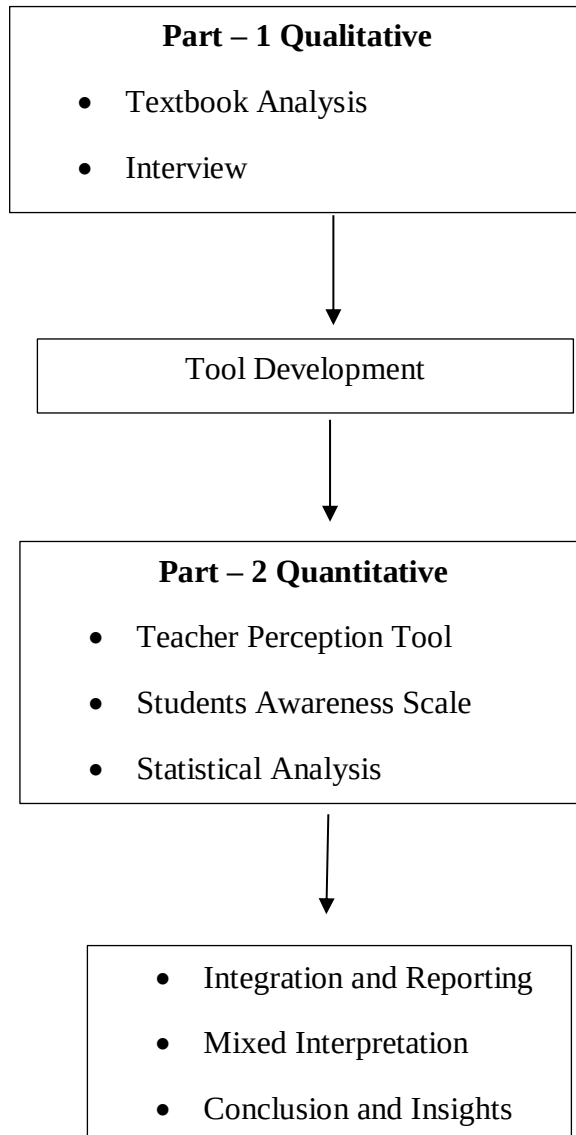


Fig 3.1. Showing Research Design for the Present Study

The first phase for the study consisted of qualitative data collection and analysis which was done through textbook analysis and semi-structure interview schedule with the headmaster. A qualitative content analysis of the prescribed textbooks was carried out to identify the presence of Life Skills in content, activities and exercises. Using the World Health Organization's ten core Life Skills as the guiding framework, the content was coded into categories such as Thinking skills, Social skills and Emotional skills. Semi-structured interviews were conducted with headmasters of selected schools to gain insights into how Life Skills were implemented in practice. The interviews allowed flexibility to probe beyond the prepared questions, thereby capturing both challenges and strategies adopted by schools.

This is followed by the second phase which was the quantitative data and was done using two scales: a self-constructed instrument i.e., Students Life Skills Awareness Scale (SLSAS) was administered with the secondary school students and Teachers' Life Skills Assessment Scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal was administered with the secondary school teachers of Mizoram. Thus, by clubbing these two phases, the study gives a clear picture of Life Skills education. The first phase with textbook analysis and interview with the headmasters will help to build the base and context clarification about Life Skills. The second phase with students and teachers measured the actual level of Life Skill awareness and perception. Thus, findings from the qualitative data and quantitative data were systematically analyzed and compared, synthesized and triangulated. Therefore, the integrated results and findings will give a clear picture with deeper understanding and broader evidence about Life Skills at school.

3.3. Population, Sample and Sampling designs

The population for the present study consisted of :

1. All headmasters of secondary school from the selected board of Mizoram.
2. All secondary school students of Mizoram from MBSE and CBSE board.
3. All secondary school teachers of Mizoram from MBSE and CBSE board.

Table 3.1 : District – wise Distribution of Population for the Study which include both CBSE and MBSE schools

District	No. of Schools	No. of Headmasters	No. of Teacher	No. of Students
Aizawl	200	200	1398	14480
Champhai	58	58	302	2833
Lunglei	97	97	549	4228
Kolasib	47	47	298	2978
Mamit	55	55	307	2157
Hnahthial	23	23	114	1046
Khawzawl	29	29	151	1225
Lawngtlai	66	66	342	3925
Saitual	51	51	267	1940
Serchhip	50	50	312	2624
Siaha	42	42	199	1877
Total	718	718	4239	39313

Source : UDISE 2022-23 Directorate of School Education, Govt. of Mizoram

For first phase of the study i.e., **qualitative data**, each chapter from the selected textbook viz., Social Science, Science and Mathematics from the two boards (CBSE&MBSE) are carefully and systematically analyze using Thematic content analysis to identify the WHO's Ten Core Life Skills components like Critical thinking skills, Creative thinking skills, Problem solving skills, Self – awareness skills, Decision –

making skills, Interpersonal relationship skills, Effective Communication skills, Coping with Stress, Coping with Emotions and Empathy. Thus, using Thematic content analysis can help in understanding and exploring the underlying meaning of literary texts, aiding in identification of themes, data description, and data comparison (Clarke, V., & Braun, V. 2017). For getting insight and deeper understanding of how Life Skills are incorporated in practice at school, semi-structure interview was conducted with the headmasters. A semi-structured interview is described as a ‘conversation with a purpose’ (Burgess, 1984). It involves a formal interaction guided by a set of open-ended questions arranged in order. While the guide ensures key topics are covered, its flexible nature allows the interviewer to explore responses in greater depth, use prompts and follow new lines of inquiry as they emerge during the discussion. Twelve Headmasters from selected schools of five districts viz., Aizawl, Lunglei, Champhai, Mamit and Kolasib districts are selected for the interview schedule. Thus, for the selection of Headmaster and selection of secondary school textbook for analysis, **Purposive sampling techniques** is employed for the study.

For the second phase of the study i.e., **quantitative data, Stratified random sampling technique** is utilized for dealing with collection of data at the field of study from the given data (Table 3.1). The data is collected from five districts of Mizoram located in North, East, South, West and central Mizoram as strata viz., Aizawl, Lunglei, Champhai, Mamit and Kolasib to the secondary school students and teachers about their perception and awareness towards Life Skills education. The data is collected from twelve secondary schools with a total of 1014 responses from the students (Male – 489, Female – 525) and the data is acquired from the teacher with a total of 83 responses (Male – 47, Female – 36).

The schools selected for collection of sample from the five districts are listed below at table 3.2 according to their district wise :

Table 3.2 : Schools and number of respondents selected for the sample

District	Name of School	No. of Students		Total	No. of Teachers		Total
		Male	Female		Male	Female	
Aizawl (Center)	Govt. Dintar H/S	35	15	50	2	3	5
	Kendriya Vidhyalaya, MZU	29	12	41	6	1	7
	Hermon School, Dintar	30	15	45	5	2	7
Lunglei (South)	Govt. H/S Lunglei	90	109	199	6	7	13
	JNV, Lunglei	56	43	99	3	3	6
Champhai (East)	Govt. GM H/S, Champhai	83	123	206	2	4	6
	Kendriya Vidhyalaya, Champhai	10	5	15	3	1	4
Kolasib (North)	Govt. Diakkawn H/S, Kolasib	54	62	116	3	3	6
	Govt. Thingdawl H/S, Kolasib	39	48	87	2	5	7
	JNV, Kolasib	12	19	31	7	3	10
Mamit (West)	Govt. Mamit H/S	41	50	91	3	2	5
	JNV, Mamit	10	24	34	5	2	7
Total		489	525	1014	47	36	83

3.4. Tools of the Study

The following tools are utilized and administered to collect the data for the study:

1. Employing WHO's ten core Life Skills framework to analyze the CBSE and MBSE textbooks viz., Social Science, Science and Mathematics.
2. Teachers' Life Skills Assessment Scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal (2021).
3. Students' Life Skills Awareness Tool developed by researcher.
4. Semi – structure interview schedule with the Headmaster.

3.4.1. Textbook Analysis

In this study, secondary school textbooks prescribed by the Central Board of Secondary Education (CBSE) and Mizoram Board of School Education (MBSE) were systematically examined using the World Health Organization's (WHO) Ten Core Life Skills Framework as the primary analytical lens. Thematic content analysis was employed to analyze the selected textbooks in order to identify and interpret the presence of different Life Skills. According to Ültay et al. (2021), "thematic content analysis is a methodological approach that facilitates the systematic study of qualitative data". It provides a means of separating, categorizing and interpreting textual, visual or audio materials into meaningful themes. In line with the purpose of the present study, this approach enables an in-depth examination of the content to better understand particular phenomena, concepts or themes. The textbooks selected for the study included Social Science, Science and Mathematics. Each book was thoroughly reviewed, with every page carefully read to trace the Life Skills reflected in the statements presented. The analysis focused on identifying Life Skills across the content, activity sections and exercises or questions embedded within the textbooks. While various skills were found interspersed throughout the textbook, their distribution across the textbooks appeared uneven. The details of the textbooks selected for analysis are presented in the following table 3.3.

Table 3.3 : Selected Textbook for Analysis of the Present Study

Sl.no	Book Name	Year	Grade	Board
1.	Footprints...our Past, Planet and Society, Social Science textbook	2020	IX	MBSE
2.	Learning Maths, Bilingual textbook	2023	IX	MBSE
3.	Secondary Science	2021	IX	MBSE
4.	Footprints...our Past, Planet and Society, Social Science textbook	2024	X	MBSE
5.	Learning Maths, Bilingual textbook	2023	X	MBSE
6.	Secondary Science, A Bilingual textbook	2024	X	MBSE
7.	Social Science Contemporary India – I	2021	IX	CBSE
8.	Social Science India and the Contemporary World – I	2021	IX	CBSE
9.	Social Science Democratic Politics – I	2024	IX	CBSE
10.	Economics textbook	2024	IX	CBSE
11.	Mathematics textbook	2021	IX	CBSE
12.	Science textbook	2022	IX	CBSE
13.	Social Science Contemporary India – II	2021	X	CBSE
14.	Social Science Democratic Politics – II	2021	X	CBSE
15.	Social Science India and the Contemporary World – II	2022	X	CBSE
16.	Understanding Economics Development Social Science textbook	2022	X	CBSE
17.	Mathematics textbook	2021	X	CBSE
18.	Science textbook	2021	X	CBSE

Each of the textbooks mentioned above was systematically examined with the objective of identifying the ten core Life Skills outlined by the World Health Organization (WHO). These include: Critical thinking, Creative thinking, Problem-solving, Decision-making, Self-awareness, Interpersonal relationship, Effective communication, Coping with stress, Coping with emotions, and Empathy. For analytical clarity, these skills are further grouped into three broad domains: Thinking skills, Social skills and Emotional skills, as illustrated in the following figure 3.2.

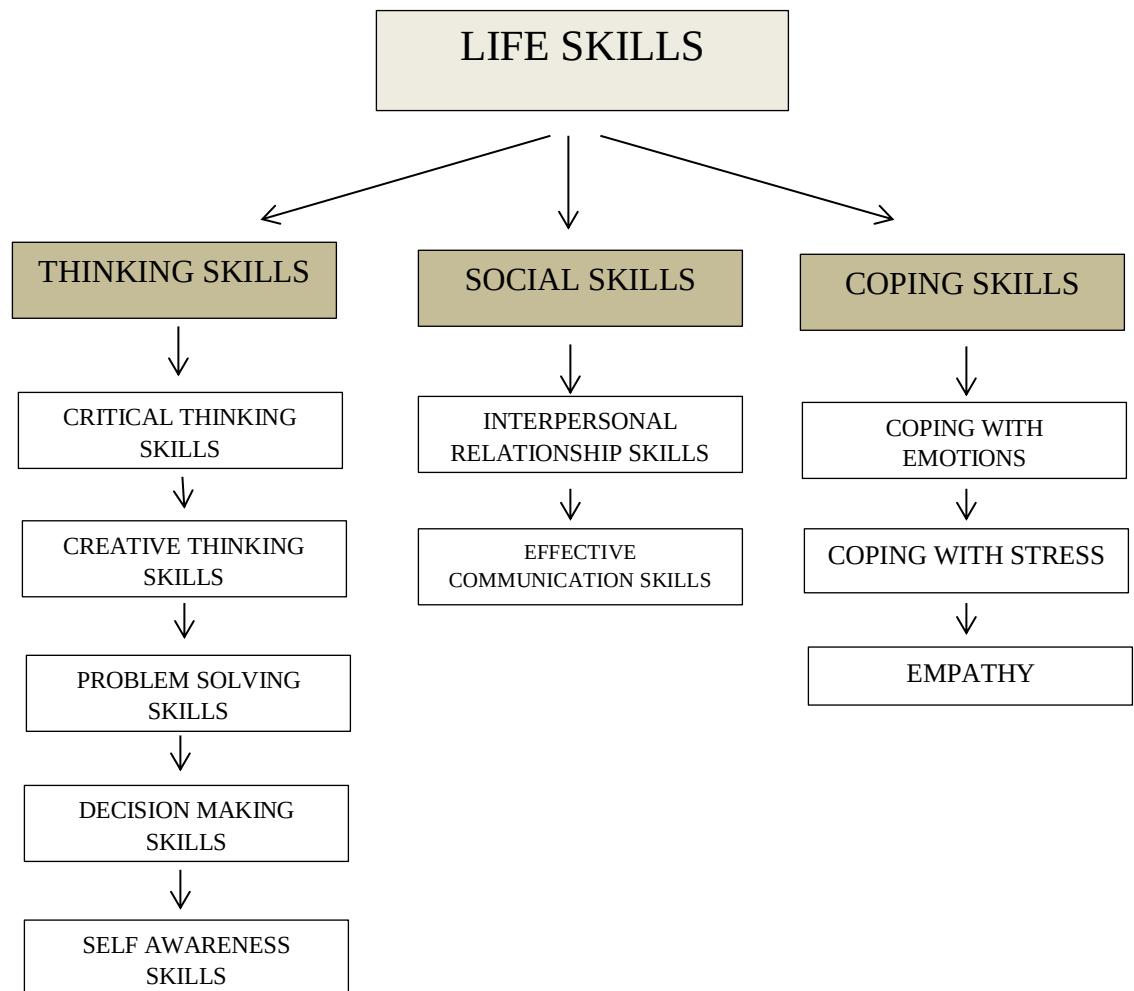


Fig 3.2. Classification of Life Skills in Different Dimension

A summary of the identified Life Skills, organized by textbook, is presented in the table below (table 3.4 and 3.5). The table highlights the Life Skills traced in each textbook, along with their chapter-wise distribution.

Let us first discuss with the textbook analyze from CBSE class – IX and class – X textbook, showing the name of chapter, life skills identified, examples and exercises given below in the following table 3.4.

Table 3.4. Displaying Content Analysis of CBSE Textbooks

Book Name : CBSE Mathematics Textbook for Class – X

Sl.no	Chapter Name	Life Skills	Examples	Exercises / Activity
1.	Real Numbers	- Creative thinking skills - Critical thinking skills - Problem solving skills	Let's say your set includes every prime number that exists. What would you predict about its size? Do you think it has only a limited number of elements, or does it go on endlessly?	Tasks where working through a problem is required in order to reach a conclusion. There is a circular path.....12 minutes for the same. Suppose they both start.....at the starting point.
2.	Polynomials	- Critical thinking skills - Problem solving skills	So, the zero of a linear polynomial is connected to its coefficient. Does this kind of relationship also exist for other types of polynomials?	Practice section where the learner is required to work out and answer the given questions. Find the zeroes of thethe zeroes and the coefficients.
3.	Pair of Linear Equations in Two Variables	- Problem solving skills - Critical thinking skills	You might approach it by examining different scenarios. If she takes one ride, is that feasible? What about if she takes two rides?	Practice section where the focus is on solving the given questions. Draw the graphs of the.....of the vertices of the triangle.....the triangular region.
4.	Quadratic Equation	Problem solving skills		Question section where emphasis is placed on using thinking skills to work out the exercises. Is it possible to design.....find its length and breadth.
5.	Arithmetic Progressions	Critical thinking skills	For a given term, are you able to determine the next term in each	Question section that encourages learners to apply critical thinking

		• Problem solving skills • Creative thinking skills	of the lists above? If yes, how would you express it?	and analysis in order to arrive at solutions. In a school, students thought.....air pollution. It was decided.....and so on till class XII. There are.....by the students?
6.	Triangles	• Critical thinking skills • Problem solving skills • Creative thinking skills	What observations can you make about two photographs of the same person, both of the same size—one taken at age 10 and the other at age 40? Would you consider these photographs to be similar?	Question section where learners are expected to use critical and analytical thinking to arrive at solutions. Using theorem 6.1, prove.....the mid point of one.....the third side.
7.	Coordinate Geometry	• Creative thinking skills • Problem solving skills • Critical thinking skills	To determine the position of the tower, we need the coordinates of point P. How can we find those coordinates?	Exercises section where the learner is required to apply critical thinking and systematically analyze the questions to provide solutions. To conduct Sports day.....distance of 1 m each. 100 flower pots.....and post a red flag. What is the distance.....she post her flag?
8.	Introduction to Trigonometry	• Critical thinking skills • Problem solving skills		Exercises section where the task involves solving problems to arrive at solutions. Prove the following identities.....the expressions are defined.
9.	Some Applications	• Critical thinking skills	Let's look at Fig. 1.9 again. If you wish to determine the height CD of the minar without directly	Exercise section where solving a problem is essential in the given situations.

	of Trigonometry	• Problem solving skills	measuring it, what information would be required?	A circus artist is climbing.....pole to the ground. Find the height.....ground level is 30° .
10.	Circles	• Critical thinking skills • Problem solving skills • Creative thinking skills	You may have noticed a pulley placed over a well, used for drawing water. Observe Fig. 10.2: the rope on either side of the pulley, if treated as a ray, acts like a tangent to the circle that represents the pulley.	Exercises section where learners are encouraged to apply their creativity and innovation to develop solutions to the problems. Draw a circle and two lines.....one is a tangent and the other.....to the circle.
11.	Areas Related to Circles	• Critical thinking skills • Problem solving skills	Is it possible to determine the length of the arc APB that corresponds to this sector?	Exercises section where a problem is presented for the learner to solve. A round table cover has six.....in fig 11.11. If the radius of the cover.....at the rate of 0.35 per cm^2
12.	Surface Areas and Volumes	• Creative thinking skills • Critical thinking skills • Problem solving skills	If, for some reason, you needed to determine the surface area, volume, or capacity of such objects, how would you go about it?	Practice section that presents a question for the learner to work out a solution. A pen stand made of wood.....depression is 0.5 cmis 1.4 cm . Find the volume...stand.
13.	Statistics	• Problem solving skills • Critical thinking skills		Activity section where learners are required to analyze the problems in order to find solutions. From the table 13.3 find.....as 'a'. What do you.....case is the same.

14.	Probability	• Creative thinking skills • Critical thinking skills • Problem solving skills	As another example of equally likely outcomes, consider rolling a die once. Here, we assume the die is fair. What are the possible outcomes?	Question section where solving a problem is necessary to provide answers to the queries. A box contains 5 red marbles.....box at a random. What is the.....will be red, white not green?
-----	-------------	--	--	---

Book Name : CBSE Science Textbook for Class – X

Sl.no	Chapter Name	Life Skills	Examples	Exercises / Activity
1.	Chemical Reactions and Equations	• Critical thinking skills • Effective Communication skills • Problem solving skills • Creative thinking skills • Self awareness skills	Did you know that chip manufacturers often fill chip bags with gases like nitrogen to stop the chips from oxidizing?	Question section that requires the learner to use their critical and analytical thinking to formulate answers. A shiny brown coloured.....in colour. Name the element.....formed.
2.	Acids, Bases and Salts	• Decision making skills • Self awareness skills • Critical thinking skills	If a family member experiences acidity due to overeating, which of these would you recommend as a remedy: lemon juice, vinegar, or a baking soda solution?	Activity section that gives the learner a chance to solve problems based on the given questions. Place a few pieces of....a test tube. Add 2ml.....record your observation.

		• Problem solving skills • Creative thinking skills • Empathy		
3.	Metal and Non – Metals	• Critical thinking skills • Decision making skills • Problem solving skills • Creative thinking skills • Inter personal relationship skills	You may notice that certain metals can be hammered into thin sheets; this ability is known as malleability. Interestingly, gold and silver are the most malleable metals.	Question that requires the learner to apply critical thinking to solve a problem and arrive at an answer. A man went door to door.....in a particular solution. The bangles.....a hasty retreat. Can you play.....he has used?
4.	Carbon and its Compounds	• Critical thinking skills • Problem solving skills • Creative thinking skills • Self awareness skills	Can you illustrate the electron dot structures for cyclohexane? Consider straight-chain, branched-chain, and cyclic carbon compounds, which can be either saturated or unsaturated.	Activity section that involves solving problems collaboratively with peers. Teachers' demonstration.....drop a small piece.....of rice.....test the gas evolved
5.	Life Processes	• Critical thinking skills • Problem solving skills • Creative thinking skills	What would occur if this network of tubes developed a leak? Consider a situation where we get injured and begin to bleed.	
6.	Control and Coordination	• Critical thinking skills	Coming into contact with a hot object is an immediate and	

		• Self awareness skills • Creative thinking skills • Problem solving skills • Coping with Stress • Effective Communication skills • Empathy	hazardous situation. We need to recognize it and react. How can we sense that we are touching something hot?	Question that encourages the learner to use innovative thinking and generate new ideas to find solutions. What is the function of.....where receptor do not not.....are likely to arise.
7.	How do Organism Reproduce?	• Critical thinking skills • Creative thinking skills • Problem solving skills • Decision making skills • Coping with stress • Empathy • Coping with emotions • Self awareness skills	Why would a single organism expend energy on a process that isn't necessary for its survival?	Question section that calls for the learner to apply creativity in responding to specific queries. Draw a labelled diagram.....section of a flower.
8.	Heredity	• Critical thinking skills • Creative thinking skills • Problem solving skills	A segment of DNA that contains instructions for a single protein is called the gene for that protein. How do these proteins influence the traits we are discussing?	Question section that requires the learner to use creative thinking to answer particular questions. A study found that children.....light coloured eyes. On this basis.....why or why not.
9.	Light, Reflection and Refraction	• Critical thinking skills • Creative thinking skills • Problem solving skills • Self awareness skills	We observe many objects in our surroundings, but in a dark room, we cannot see anything. When the room is illuminated, objects	Activity section that involves collaborating and communicating with others.

		• Effective communication skills	become visible. What causes objects to be seen?	Place a coin at the bottom.....coin in one go.....succeed in doing.....experience with theirs.
10.	The Human Eye and the Colourful World	• Critical thinking skills • Self awareness skills • Coping with emotions • Problem solving skills • Creative thinking skills • Decision making skills	The human eye relies on light to help us see the objects around us and contains a lens in its structure. What role does the lens play in the human eye.	Question section that requires the learner to use creativity and imagination in their responses. Make a diagram to show.....eye is 1 m. What is.....normal eye is 25 cm.
11.	Electricity	• Critical thinking skills • Problem solving skills • Creative thinking skills	What is electricity made of? How does it travel through an electric circuit? Which factors influence or regulate the current in a circuit?	Question section that presents a scenario in which the learner must solve a problem. An electric heater of resistance.....2 hours. Calculate the rate.....in the heater.
12.	Magnetic Effects of Electric Current	• Critical thinking skills • Creative thinking skills • Problem solving skills	The iron filings form the pattern shown. Why do they arrange themselves this way, and what does this pattern illustrate?	Question section that asks the learner to apply creative and imaginative thinking in their answers. Imagine that you are sitting.....the front wall.....to your right side. What is.....magnetic field.
13.	Our Environment	• Problem solving skills • Critical thinking skills • Creative thinking skills • Empathy • Coping with stress	What would happen to garbage, dead plants, and animals if decomposers were absent? Would the soil still be naturally replenished without them?	

Book Name : CBSE Social Science Textbook for Class – X

Sl.no	Chapter Name	Life Skills	Examples	Exercises / Activity
1.	Resources and Development	• Creative thinking skills • Problem solving skills • Critical thinking skills • Effective Communication skills • Self awareness skills • Coping with Emotions • Empathy	Humans engage with nature using technology and establish institutions to speed up their economic growth.	Activity section that requires clear and effective communication to reach a conclusion. Have a discussion in.....used in your school.
2.	Forest and Wildlife Resources	• Critical thinking skills • Self awareness skills • Problem solving skills • Creative thinking skills • Interpersonal relationship skills	We are so accustomed to the rich variety of plants and animals in our daily lives that we often take them for granted.	Question section that requires the learner to apply critical thinking to arrive at an answer. Describe how communities.....and wildlife in India.
3.	Water Resources	• Empathy • Coping with stress • Critical thinking skills • Coping with emotions • Problem solving skills • Self awareness skills	Excessive use and poor management of water resources will deplete them and lead to ecological crises that could deeply affect our lives.	Question section that demands critical thinking and analytical examination of the content. Describe how modern adaptation.....out to conserve and store water.

		• Effective communication skills • Creative thinking skills • Interpersonal relationship skills		
4.	Agriculture	• Critical thinking skills • Empathy • Self awareness skills • Problem solving skills • Effective communication skills • Coping with stress • Creative thinking skills	Yet, many landowners, fearing the Land Ceiling Act, decided to give a portion of their land to poor farmers.	Project work section that encourages the learner to apply their creative abilities. On an outline map.....producing areas.
5.	Minerals and Energy Resources	• Creative thinking skills • Critical thinking skills • Empathy • Coping with emotions • Problem solving skills	Minerals exist in different forms in nature, from the hardest diamond to the softest talc. What causes this variation?	
6.	Manufacturing Industries	• Interpersonal relationship skills • Self awareness skills • Problem solving skills • Critical thinking skills	India has world-class spinning production, but weaving produces low-quality fabric since it is unable to utilize much of the high-quality yarn made in the country.	Activity section that requires creativity and innovative thinking to solve the question. Solve the puzzle by.....the hidden answers.

		• Creative thinking skills • Coping with stress • Coping with emotions		
7.	Lifelines of National Economy	• Interpersonal relationship skills • Critical thinking skills • Coping with stress • Empathy • Effective communication skills	Some people pull the emergency chain and stop trains without reason, causing serious harm to the railway think about how we can help trains run on time.	Activity section that involves teamwork and the use of communication skills. On the map of India show.....of the country.....discuss in the class.
8.	Development	• Self awareness skills • Critical thinking skills • Decision making skills • Interpersonal relationship skills • Empathy • Coping with emotions • Coping with stress • Creative thinking skills • Effective communication skills	What are the basic needs we must have? Is it possible to make life better for everyone? How should people coexist peacefully? Can society become more equal?	Activity part that encourages the use of communication skills to arrive at a conclusion for the given questions. Invite three different speakers.....come to your mind. Discuss these ideas.....a wall chart.....you agree or.....with.
9.	Sectors of the Indian Economy	• Critical thinking skills • Coping with stress • Empathy	Think about the impact on cotton farming if companies choose to stop purchasing from the Indian	

		• Decision making skills • Creative thinking skills • Effective communication skills • Problem solving skills • Self awareness skills • Coping with emotions	market and instead import all their cotton from abroad. This would make cotton cultivation in India less profitable, and farmers might even face bankruptcy if they are unable to shift to other crops quickly. As a result, cotton prices would decline.	Question part that requires learners to apply creativity and innovative thinking to provide answers. A study in Ahmedabad.....sector. The total income.....in the organized sector. Present this data.....in the city.
10.	Money and Credit	• Self awareness skills • Critical thinking skills • Creative thinking skills • Problem solving skills • Decision making skills • Empathy • Effective communication skills • Interpersonal relationship skills • Coping with emotions	It not only enables women to achieve financial independence, but also creates a space through regular group meetings where they can discuss and take action on various social concerns like health, nutrition, domestic violence, and more.	Activity part where the learner is expected to develop and demonstrate coping skills in order to arrive at solutions. The following table shows.....in urban areas. What are the purpose.....need loans? Fill in the column.
11.	Globalization and the Indian Economy	• Self awareness skills • Critical thinking skills • Creative thinking skills • Problem solving skills • Empathy	How can we make sense of these fast changes? What are the reasons behind them? And in what ways are they influencing people's lives?	Question parts that require clear and effective communication in responses to provide a complete answer. Supposing you find two.....our countrys' development. The other

		• Effective communication skills • Decision making skills • Interpersonal relationship skills • Coping with emotions	In today's world, consumers often have a broad range of goods and services to choose from.	is.....India develop. How would you.....arguments.
12.	Consumer Rights	• Critical thinking skills • Empathy • Decision making skills • Creative thinking skills • Coping with stress • Coping with emotions • Self awareness skills • Interpersonal relationship skills • Effective communication skills	Likewise, numerous workers in the unorganized sector are paid low wages, have to endure unfair working conditions, and often face health hazards. Why have regulations been established requiring manufacturers to provide this information?	Activity part where building interpersonal relationships and connections is essential to fully address the questions. Your school organizes a.....consumer rights. You may use the.....activity can be done.....teacher.
13.	Power Sharing	• Critical thinking skills • Coping with emotions • Interpersonal relationship skills • Coping with stress • Effective communication skills • Empathy	They believed that the constitution and government policies deprived them of equal political rights, treated them unfairly in employment and other opportunities, and overlooked their interests.	Exercise part where learners are required to read carefully, think critically, and analyze the content to provide answers. Read the following passage.....one of the prudent.....in this. We need to give more.....is also a

		• Decision making skills • Creative thinking skills • Self awareness skills		way...they would naturally exercise...of our democracy.
14.	Federalism	• Critical thinking skills • Creative thinking skills • Decision making skills	Consider your own state or any other state that experienced linguistic re-organization. Based on that example, write a brief note supporting or opposing the author's argument.	Question part where learners are expected to apply creative thinking. Locate the following states.....of India.....and Goa.
15.	Gender, Religion and Caste	• Critical thinking skills • Empathy • Self awareness skills • Interpersonal relationship skills • Creative thinking skills • Decision making skills • Problem solving skills • Coping with emotions • Coping with stress • Effective communication skills	Over time, gender issues began to emerge in politics. Women across the world organized and protested for equal rights, including campaigns in various countries to secure voting rights for women.	Question part that focuses on developing learners' thinking skills to strengthen their cognitive abilities. What is the status of women's.....election result in India.
16.	Political Parties	• Self awareness skills • Critical thinking skills • Effective communication skills	However, we still need to question why political parties are	Question section where learners need to carefully read the statements and respond by applying their cognitive skills.

		• Creative thinking skills • Empathy • Problem solving skills • Coping with stress	essential for the functioning of modern democracies.	Do you agree with the.....make it different.....to begin with.....you defend it.
17.	Outcomes of Democracy	• Critical thinking skills • Problem solving skills • Creative thinking skills • Interpersonal relationship skills • Coping with emotions • Empathy • Coping with stress • Self awareness skills • Effective communication skills	Now consider the other perspective – democracy guarantees that decisions are made according to established norms and procedures. A citizen who wishes to verify whether a decision followed the correct process can do so. She has both the right and the tools to scrutinize the decision-making process, which is referred to as transparency.	Question part that requires learners to use effective communication skills to answer the queries. What does Nannu's example.....on officials? Ask your parents.....to their problems.
18.	The Rise of Nationalism in Europe	• Creative thinking skills • Critical thinking skills • Empathy • Self awareness skills • Problem solving skills • Interpersonal relationship skills • Coping with emotions • Decision making skills	The revolutionaries also proclaimed that it was France's mission and destiny to free the peoples of Europe from tyranny, essentially assisting them in becoming independent nations.	Activity part where learners are required to think creatively and come up with new ideas to reach well-founded conclusions. Find out more about nationalist.....of pictures, posters.....of nationalism. How are these.....examples.

		• Effective communication skills • Coping with stress		
19.	Nationalism in India	• Critical thinking skills • Self awareness skills • Interpersonal relationship skills • Empathy • Coping with emotions • Decision making skills • Creative thinking skills • Effective communication skills • Coping with stress	However, every class and group experienced colonialism in different ways, leading to diverse perspectives and understandings of freedom. Under Mahatma Gandhi, the Congress attempted to unite these groups into a single movement, but achieving unity was not without conflict.	Question section where learners must use critical thinking skills to arrive at conclusions for the questions provided. Imagine you are a woman.....in the civil.....what the experience.....life.
20.	The Making of a Global World	• Interpersonal relationship skills • Empathy • Critical thinking skills • Creative thinking skills • Self awareness skills • Problem solving skills • Coping with emotions • Effective communication skills • Coping with stress	Trade and cultural exchange have always been closely linked. Early Christian missionaries likely traveled these routes to reach Asia, followed by Muslim preachers a few centuries later. Even earlier, Buddhism originated in eastern India and spread in multiple directions via key points along the Silk Routes.	Question section where learners are required to think critically and analytically to draw conclusions from the given statements. Explain the three types of.....economic exchange. Find one example.....short account on it.

		• Interpersonal relationship skills		
21	The Age of Industrialization	• Critical thinking skills • Creative thinking skills • Coping with stress • Problem solving skills • Self awareness skills • Empathy • Interpersonal relationship skills • Decision making skills • Coping with emotions	How did these images come about, and how do we connect with these ideas? Is industrialisation always driven by rapid technological progress? Should we still celebrate the continuous mechanisation of all work today? What impact has industrialisation had on people's lives?	Activity part where learners are encouraged to think creatively, generate innovative ideas, and go beyond conventional viewpoints. Select any one industry in.....from. How are.....and marketed. Try and talk.....the industry's history.
22.	Print Culture and the Modern World	• Critical thinking skills • Creative thinking skills • Interpersonal relationship skills • Effective communication skills • Empathy • Self awareness skills • Decision making skills • Coping with emotions	There was a concern that without regulating what was printed and read, rebellious and irreligious ideas could spread.	Question part that highlights the importance of applying thinking skills. Why did some people in.....would bring.....despotism.

Book Name : CBSE Science Textbook for Class – IX

Sl.no	Chapter Name	Life Skills	Examples	Exercises / Activity
1.	Matter in our Surrounding	• Problem solving skills • Critical thinking skills • Interpersonal relationship skills • Self awareness skills • Creative thinking skills	This mixing of particles of two different kinds of matter on their own is known as diffusion. It is also noticed that when the substance is heated, diffusion occurs more rapidly. Why does this take place?	Activity section where learners need to cooperate and build interpersonal relationships in order to find a solution to the problem. Prepare a model to demonstrate.....in solids, liquid.....a big rubber.....or dry green peas.....and then rapidly.
2.	Is Matter Around us Pure?	• Creative thinking skills • Self awareness skills • Interpersonal relationship skills • Critical thinking skills • Problem solving skills • Effective communication		Question section where applying problem-solving skills is essential to construct an appropriate answer. What mass of potassium.....needed to.....nitrate in 50g of water at 13 K.
3.	Atoms and Molecules	• Critical thinking skills • Problem solving skills • Creative thinking skills • Effective communication skills	Have you noticed how a mason constructs walls, then combines them to form a room, and later several rooms to make a whole building? What serves as the basic unit of such a large structure? Similarly, what is the fundamental unit of an ant-hill.	Question section where learners are required to use critical thinking skills to respond to the question. When 0.3 g of carbon is burnt.....is produced. What mass of carbon dioxide.....of oxygen? Which law of.....your answer.

4.	Structure of the Atom	• Critical thinking skills • Problem solving skills • Self awareness skills • Creative thinking skills	What distinguishes the atom of one element from that of another? Are atoms truly indivisible as Dalton suggested, or do they contain smaller internal components?	Question section where the learner is expected to apply critical thinking in order to provide an answer. Summarise the rules for.....in various shells.....elements.
5.	The Fundamental Unit of Life	• Creative thinking skills • Interpersonal relationship skills • Effective communication skills • Problem solving skills • Critical thinking skills	What do we notice when we look through the lens? Can we sketch the structures we observe under the microscope on an observation sheet? Does it resemble Fig. 5.2?	Question section where emphasis is placed on the use of thinking skills. Take four peeled potato.....potato cups. One of these.....made from boiled potato....in a trough containing water.
6.	Tissues	• Critical thinking skills • Problem solving skills • Creative thinking skills	In certain plants, such as those found in deserts, the epidermis is covered with a thick, waxy layer of cutin (a chemical substance that is waterproof). Can we figure out the reason for this adaptation?	Question section that requires the learner to apply their creativity in order to respond. Diagrammatically show.....three types.....fibres.
7.	Diversity in Living Organisms	• Self awareness skills • Critical thinking skills • Creative thinking skills • Problem solving skills	Therefore, the object's velocity changes during any given time interval and is not zero. Can we now represent this change in velocity?	Question section where the focus is on encouraging the use of thinking skills. How are the criteria for.....from the criteria.....among animals.
8.	Motion	• Critical thinking skills • Effective communication skills • Problem solving skills	What leads to the occurrence of sunrise, sunset, and the changing of seasons? Is this a result of the Earth's movement?	Question section where the use of thinking skills is essential and given priority. A driver of a car travelling.....opposite

		• Creative thinking skills		direction.....car applies his brakes..... the two cars.....were applied.
9.	Force and Laws of Motion	• Critical thinking skills • Self awareness skills • Problem solving skills • Creative thinking skills • Empathy • Coping with emotions • Interpersonal relationship skills	Why does an object's speed vary over time? Does every motion need a cause? If yes, what kind of cause is it?	Question section where emphasis is placed on using thinking skills to arrive at the answer. How much momentum will.....height of 80 cm.....take its downward.....to be 10 m/s.
10.	Gravitation	• Critical thinking skills • Problem solving skills • Effective communication skills • Creative thinking skills	We observe that a falling apple is pulled towards the Earth. But does the apple also pull the Earth? If yes, then why don't we notice the Earth moving towards the apple?	Question section where priority is given to applying thinking skills. Amit buys few grams of gold.....when he meets him.....friend agreed.....if not, why?
11.	Work and energy	• Critical thinking skills • Problem solving skills • Effective communication skills • Creative thinking skills • Decision making skills	A bullock is pulling a cart, causing it to move. Since a force is acting on the cart and it has moved, do you think work is being done in this case?	Question section in the exercises where applying thinking skills is given primary importance. Can there be displacement.....any force.....this question with....teacher
12.	Sound	• Critical thinking skills • Effective communication skills	What would happen if all the air were removed? Would you still be able to hear the bell ringing?	Question section where the emphasis is on applying and developing thinking skills.

		• Interpersonal relationship skills • Creative thinking skills • Self awareness skills		When a sound is reflected.....is produced.....and the source of sound....you hear.....a hotter day.
13.	Why do we Fall Ill?	• Problem solving skills • Critical thinking skills • Empathy • Self awareness skills • Decision making skills • Coping with emotions	Think about what would happen if there were no authorities to collect and dispose of garbage. What would occur if no one took responsibility for cleaning drains and preventing water from accumulating in streets or open areas?	Question section where problem-solving skills are emphasized to arrive at the desired answer. Conduct a survey in your.....most common diseases....be taken by your.....of these diseases.
14.	Natural Resources	• Self awareness skills • Problem solving skills • Critical thinking skills • Creative thinking skills	In what ways is air quality impacted, and how do these changes affect humans and other living organisms?	
15.	Improvement in Food Resources	• Critical thinking skills • Creative thinking skills • Coping with stress • Problem solving skills	Newspapers often report efforts to increase output in agriculture and animal husbandry. Why is it important to do this? Why can't we rely on the current levels of production?	Question section where the learner needs to use critical thinking skills to provide an answer. For increasing production.....in poultry.....fisheries and beekeeping.

Book Name : CBSE Mathematics Textbook for Class – IX

Sl.no	Chapter Name	Life Skills	Examples	Exercises / Activity
1.	Number System	• Self awareness skills • Creative thinking skills • Critical thinking skills • Problem solving skills • Effective communication skills	Imagine beginning at zero and moving forward along the number line in the positive direction. Everywhere you look, as far as your eyes can reach, you find numbers, numbers, and more numbers!	Activity question where problem-solving skills are highlighted and given priority. Take a large sheet of paper.....of unit length. Draw a line.....a line segment....you will have created.....a beautiful spiral depiction.
2.	Polynomials	• Critical thinking skills • Problem solving skills • Creative thinking skills	Now that you have observed what polynomials of degree 1, 2, and 3 look like, can you write a polynomial in a single variable of degree n for any natural number n ?	
3.	Coordinate Geometry	• Critical thinking skills • Problem solving skills	House numbers are marked on every street. Is knowing just one reference point enough to locate a friend's house? For example, if we only know that she lives on Street 2, would that be sufficient to find her house easily?	Question section where problem-solving skills are given emphasis and priority. A city has two main road.....of the city. These roads are along.....of the city run parallel.....in each direction. Using $1\text{cm} = 200\text{m}$.....by single lines.
4.	Linear Equations in two Variables	• Self awareness skills • Problem solving skills • Critical thinking skills	In a One-Day International cricket match between India and Sri Lanka in Nagpur, two Indian	Question section where answering the questions requires the use of problem-solving skills.

			batsmen together scored 176 runs. How can we represent this information using an equation?	Express the following linear..... $ax+by+c=0$...values of a, b, ceach case.
5.	Introduction to Euclid's Geometry	• Empathy • Creative thinking skills • Critical thinking skills • Problem solving skills	Excavations at sites like Harappa and Mohenjo-Daro in the Indian subcontinent reveal that the Indus Valley Civilization (around 3000 BCE) extensively used geometry. It was a highly organized society, with cities that were well-developed and carefully planned.	Question section where the learner is required to think critically to provide a solution. Why is Axiom 5 in the list of.....a universal truth?
6.	Lines and Angles	• Creative thinking skills • Critical thinking skills • Problem solving skills	For example, if you wanted to create a model of a hut for a school exhibition using bamboo sticks, how would you go about making it?	Question section where problem-solving skills are prioritized. In fig.6.27., PQ and RS are two.....moves along the path BC and strikes the mirror RS at C.....prove that $AB \parallel CD$.
7.	Triangles	• Creative thinking skills • Critical thinking skills • Problem solving skills	Now, draw two circles with the same radius and place one over the other. What do you notice? They perfectly overlap, and such circles are called congruent circles.	Question section where answering requires critically analyzing the problem to find a solution. In right triangle ABC, right angled at C.....of hypotenuse AB...point D such that $DM=CM$....show that.
8.	Quadrilaterals	• Creative thinking skills • Critical thinking skills • Problem solving skills	You have already shown that a diagonal divides a parallelogram into two congruent triangles. What can you infer about the	Question section that involves solving a challenging or problem-based question.

			corresponding parts, such as the sides?	ABCD is a rhombus and P....of the sides....and DA respectively....PQRS is a rectangle.
9.	Circles	• Creative thinking skills • Critical thinking skills • Problem solving skills	What is the distance of the diameter the longest chord from the center? Since the center lies on it, the distance is zero.	Question section where the learner must apply problem-solving skills to provide a solution. A circular park of radius 20m.....at equal distance on its boundary.....to talk each other.....of each phone.
10.	Heron's Formula	• Creative thinking skills • Critical thinking skills • Problem solving skills	Now, imagine we know the lengths of the sides of a scalene triangle but not its height. Can you still determine its area? For example, consider a triangular park with sides measuring 40 m, 32 m, and 24 m. How would you calculate its area?	Question section where the learner needs to use their problem-solving ability. A traffic signal board indicating.....with side 'a'.....of the signal board.....its perimeter is 180cm.....of the signal board.
11.	Surface Areas and Volumes	• Creative thinking skills • Critical thinking skills • Problem solving skills	Now, if you attach a string along the diameter of a circular disc and rotate it as you did with the triangle in the previous section, you will create a new solid (see Fig. 11.6). What shape does it resemble?	Question section where problem-solving skills are essential to find a solution. What length of tarpaulin.....and base radius.....material that will be required.....and wastage.....is approximately 20 cm
12.	Statistics	• Creative thinking skills • Critical thinking skills • Problem solving skills		Question section where emphasis is placed on the use of problem-solving skills.

				A survey conducted by an.....and death among the woman.....the following figures.
--	--	--	--	---

Book Name : CBSE Social Science Textbook for Class – IX

Sl.no	Chapter Name	Life Skills	Examples	Exercises / Activity
1.	India – Size and Location	• Creative thinking skills • Critical thinking skills • Interpersonal relationship skills • Effective communication skills	India has maintained connections with the rest of the world for centuries, but its interactions via land routes date back much earlier than its maritime contacts.	Questions that promote the use of creativity and mapping skills to arrive at solutions. Identify the following....of map reading.
2.	Physical Features of India	• Self awareness skills • Critical thinking skills • Creative thinking skills	You have already learned that India is a large country with diverse landforms. What type of terrain surrounds your area?	Activity section that requires the learner to use their creative abilities. Locate the peaks, ranges.....in the puzzle.....features are located.....vertically or diagonally.
3.	Drainage	• Critical thinking skills • Problem solving skills • Creative thinking skills • Empathy	However, a few rivers begin in the central highlands and flow westward. Can you name two such major rivers?	
4.	Climate	• Critical thinking skills • Problem solving skills • Coping with stress • Creative thinking skills	Why do we wear woollens in December, feel hot and uncomfortable in May, and experience rainfall in June and July?	Question section where the learner must use critical thinking to reach a conclusion. Why does the rainfall...to the west in Northern India.

		• Self awareness skills		
5.	Natural Vegetation and Wildlife	• Self awareness skills • Creative thinking skills • Problem solving skills • Coping with stress • Critical thinking skills • Coping with emotions	As mentioned earlier, the overuse of plant and animal resources by humans has disrupted the ecosystem.	Question section where the use of thinking skills is emphasized. Quite a few species of plants.....in India. Why
6.	Population	• Creative thinking skills • Critical thinking skills • Self awareness skills • Problem solving skills • Empathy • Interpersonal relationship skills	Since 1981, birth rates have gradually decreased, leading to a slow decline in population growth. What factors have contributed to this trend?	Activity section where learners need to use interpersonal skills to work together and find a solution. Conduct a class census.....five questions.....their health, etc.....in numerical terms...or in any other way.
7.	The Story of Palampur	• Critical thinking skills • Problem solving skills • Effective communication skills • Empathy • Creative thinking skills • Coping with stress	People observed that electric tubewells could irrigate much larger areas of land more efficiently. The government installed the first few tubewells.	Question section where emphasis is placed on applying critical thinking skills. On what terms did Savita.....condition be different.....a loan from bank.....rate of interest.
8.	People as a Resource	• Critical thinking skills • Empathy • Decision making skills • Creative thinking skills • Coping with stress • Coping with emotions • Problem solving skills	In contrast, a vicious cycle can occur when disadvantaged parents, who are uneducated and have poor hygiene, raise their children in the same disadvantaged conditions.	Question section where critical thinking skills are given importance. Can you suggest some measures.....the problem.....educated unemployed.

9.	Poverty as a Challenge	• Problem solving skills • Empathy • Coping with emotions • Coping with stress • Critical thinking skills	One of the greatest challenges faced by independent India has been lifting millions of its people out of extreme poverty.	
10.	Food Security in India	• Coping with emotions • Coping with stress • Self awareness skills • Effective communication skills • Critical thinking skills • Empathy • Problem solving skills	Poor households are more susceptible to food insecurity whenever there are issues with the production or distribution of food crops.	Question section where critical thinking skills are emphasized and given priority. What has our government done...to the poor...discuss any.....by the government.
11.	What is Democracy? Why Democracy?	• Critical thinking skills • Decision making skills • Coping with stress • Empathy • Effective communication skills • Self awareness skills • Creative thinking skills • Interpersonal relationship skills • Coping with emotions • Problem solving skills	Democracy is the most common form of government worldwide and continues to spread to more countries. But why is this the case? What makes it superior to other forms of government?	Activity section where problem-solving skills are highlighted and emphasized. Find out the total number.....in your areas.....in your parliamentary or assembly.....a meaningful discussion.
12.	Constitutional Design	• Critical thinking skills • Coping with emotions	However, the white racist government maintained control by imprisoning, torturing, and killing	Question section where critical thinking skills are used to answer the questions.

		• Interpersonal relationship skills • Effective communication skills • Empathy • Creative thinking skills • Problem solving skills	thousands of Black and colored people.	Read the following extract.....species delicate and fragile both.....not despair but feel obliged.....in this para.....go against the constitutional values.
13.	Electoral Politics	• Critical thinking skills • Effective communication skills • Problem solving skills • Coping with stress • Decision making skills • Creative thinking skills • Empathy • Coping with emotions	It might be challenging to determine who is more experienced or knowledgeable, but let's assume that people are able to overcome these difficulties.	Question section where the importance of critical thinking skills is emphasized. Chinappa was convicted for..... of practicing untouchability.... did not allow..... of democratic elections?
14.	Working of Institutions	• Critical thinking skills • Effective communication skills • Interpersonal relationship skills • Self awareness skills • Empathy • Coping with stress • Creative thinking skills • Decision making skills • Problem solving skills	This decision sparked widespread protests and counter-protests, some of which turned violent. People reacted strongly because it impacted thousands of job opportunities.	Question section where decision-making skills are applied to arrive at the required answer. A teacher was making preparations.....as leaders of two.... a majority either... in the mock Rajya Sabha... choose and why?
15.	Democratic Rights	• Self awareness skills • Coping with stress		

		• Critical thinking skills • Effective communication skills • Empathy • Decision making skills • Interpersonal relationship skills • Coping with emotions • Creative thinking skills • Problem solving skills	Citizens are not allowed to form political parties or any political organizations, and the media cannot publish anything that the monarch disapproves of.	Activity section where the learner is required to apply their problem-solving abilities. Is there a State Human Rights..... about its activities..... if you know any.... violation in your area.
16.	The French Revolution	• Coping with stress • Critical thinking skills • Creative thinking skills • Coping with emotions • Empathy • Problem solving skills • Decision making skills • Self awareness skills • Interpersonal relationship skills	During the ensuing armed conflict, the commander of the Bastille was killed, and the prisoners were freed although there were only seven of them.	Activity section where interpersonal relationship skills are highlighted in addressing the tasks. The French Revolution saw.... and pictures on anyone....also conduct an imaginary interview....groups of two or three...on the French Revolution
17.	Socialism in Europe and the Russian Revolution	• Critical thinking skills • Empathy • Creative thinking skills • Coping with emotions • Coping with stress • Interpersonal relationship skills • Problem solving skills	Some people were labeled as 'conservatives,' while others were 'liberals' or 'radicals.' What did these terms truly signify at that time? What distinguished these political groups, and what connected them?	Question section where the use of critical thinking skills is necessary. What were the main changes.....after the October revolution?

18.	Nazism and the Rise of Hitler	• Empathy • Critical thinking skills • Interpersonal relationship skills • Coping with emotions • Coping with stress • Creative thinking skills	It became widely felt that the rise of Nazi Germany was partly linked to Germany's experience at the end of the First World War. What exactly was this experience?	
19.	Forest Society and Colonialism	• Critical thinking skills • Problem solving skills • Self awareness skills • Coping with stress • Empathy • Effective communication skills • Creative thinking skills		Question section where thinking skills are prioritized. What are the similarities.....of the forest...and in Java?
20.	Pastoralists in the Modern World	• Critical thinking skills • Coping with stress • Coping with emotions • Effective communication skills • Interpersonal relationship skills • Creative thinking skills • Empathy	Have you ever thought about where they come from and where they are going? Do you know how they live and earn their livelihood, or what their history has been?	Question section where the importance of thinking skills is emphasized. Explain why nomadic tribes....place to another....the advantages to the...continuous movement?

Let us discuss with the textbook analyze from MBSE class – IX and class – X textbook, showing the name of chapter, life skills identified, examples and exercises given below in the following table 3.5.

Table 3.5. Displaying Content Analysis of MBSE Textbooks

Book Name : Footprints...our Past, Planet and Society, Social Science textbook MBSE Class – IX

Sl.no	Chapter Name	Life Skills	Example	Exercises/Activity
1.	The French Revolution	• Empathy • Coping with Stress • Problem solving skills • Interpersonal relationship skills • Creative thinking skills • Critical thinking skills	Gender discrimination and showing nonchalance attitude towards woman.	
2.	The Russian Revolution	• Critical thinking skills • Creative thinking skills • Coping with Stress • Empathy	Poor working conditions among the blue collar job during the Tsarist rule	Question sections like “Answer the following Question in detail” section give opportunities to the students to develop their critical and analytical skills
3.	Rise of Nazism	• Critical thinking skills • Creative thinking skills • Problem solving skills		Adding essay type of question at the exercise column will enhance the

		• Coping with emotions • Coping with stress • Empathy		learners creative and developing their ideas.
4.	Pastoralism in the Modern World	• Critical thinking skills • Creative thinking skills • Problem solving skills • Interpersonal relationship skills • Coping with Stress • Empathy	Vulnerability of the life of a nomadic and pastoralist tribe in search of their livelihood.	Question Section which include comparative section to bring innovation and ideas to come to conclusion.
5.	Forest Society and Colonialism	• Creative thinking skills • Critical thinking skills • Inter personal relationship skills • Coping with stress • Empathy	Dutch people enforced forest laws in Java region by prohibiting the villagers to enter the forest.	Question section which encourages the students to use their cognitive skills on a question give. 1. In what ways.....forest laws....? 2. How did the changes in.....affect the different groups...?
6.	Peasants and farmers	• Critical thinking skills • Creative thinking skills • Problem solving skills • Coping with Stress • Empathy	Development in machinery during the industrial revolution period.	1. Discuss the conflict between.....British in India. 2. Compare the agricultural practices....of Bengal and the wheat farmer....? Such questions enable the learner to think critically and learn to solve problematic situation.
7.	Sports and Politics	• Critical thinking skills		

		• Creative thinking skills • Interpersonal relationship skills • Coping with Stress • Empathy	Players getting stressed due to low wages of paid as it was seasonal occupation and they need to search for alternative job during winter season.	
8.	Clothes and Culture	• Creative thinking skill • Problem solving skills • Critical thinking skills • Interpersonal relationship skills • Decision making skills • Coping with stress • Empathy • Coping with Emotion		Questions inculcated like Why did Gandhi.....khadi to be popularize.....? Discuss the relationclothing in India. Which enable the learner to develop and improve their cognitive skills to think analytically.
9.	India – size and location	• Critical thinking skills • Creative thinking skills • Problem solving skills • Interpersonal relationship skills	India having a strong link and relationship with the world since ancient times.	Activity corner which provide space for locating map within India. On a political map....where necessary.
10.	India– Physical features	• Critical thinking skills • Problem solving skills • Creative thinking skills • Coping with stress • Empathy		Find out box which provide an opportunity to the learner to explore more question to enrich their knowledge. Plateaus can be.....Can you give examples...?

11.	Drainage	• Problem solving skills • Critical thinking skills • Creative thinking skills • Coping with stress	Natural disaster especially during monsoon season which cause a huge devastation situation due to overflowing of river banks.	Questions which give queries for developing cognitive skills of the learner. Why does river Brahmaputra....flowing through Tibet?
12.	Climate of India	• Problem solving skills • Creative thinking skills • Critical thinking skills • Self-awareness skills • Coping with stress	The southern region of India has a tropical climate and stays warm all year round.	Find out box which provide statements to bring out the creativity among the learner. The direction and the distance.....Garo,Khasi and Jaintia....You may find your clue in this diagram.
13.	Vegetation and Wildlife in India	• Critical thinking skills • Creative thinking skills • Problem solving skills • Coping with Emotions	Have you ever imagined what the world would be like if there were no trees?	Question which give opportunity to students to improve their opinion and decision making skills. Suggest ways....conserving wildlife.
14.	Population	• Creative thinking skills • Problem solving skills • Critical thinking skills • Coping with Stress • Empathy	Only one-third of the rural population has access to safe drinking water and other essential necessities.	
15.	Democracy : Significance and Relevance	• Decision making skills • Empathy • Problem solving skills	However, the government can restrict the freedom and rights of	Questions which provide chances to the learners to develop their thinking skills.

		• Interpersonal relationship skills • Coping with stress • Effective communication skills • Critical thinking skills • Creative thinking skills	individuals or minority groups at any time.	Is a democracy....?Give reasons for your answer
16.	Designing of Democracy in India	• Problem solving skills • Empathy • Decision making skills • Interpersonal relationship skills • Coping with Emotions • Critical thinking skills • Creative thinking skills	Clashes between two religious communities resulted in an unprecedented loss of lives and property. According to estimates, nearly one million people suffered as victims of the partition.	Connect to the World Around column gives awareness and new information to the learner beyond the textual question.
17.	Electoral Politics in India	• Decision making skills • Effective Communication skills • Self-awareness skills • Critical thinking skills • Empathy • Creative thinking skills • Problem solving skills	Elections give people the chance to exercise their democratic right by choosing their own government.	

		• Coping with stress		
18.	Institutions of Parliamentary Democracy	• Problem solving skills • Interpersonal relationship skills • Coping with Stress • Critical thinking skills • Creative thinking skills	She then mobilized the women and led their protest, which ultimately compelled the arrack traders to withdraw from the area.	Activity corner which provide opportunities to solve a certain conditions. Identify instances.....to PIL. Find out....?
19.	Rights in a Democracy	• Decision making skills • Interpersonal relationship skills • Empathy • Critical thinking skills • Coping with Stress • Creative thinking skills • Problem solving skills	In a democracy, people have the authority to elect their government, oversee its functioning, and remove it from power if it does not meet their expectations	Questions giving statements to the readers to work in group. Discuss the role.....of Fundamental Rights.
20.	The Story of Village Economy	• Critical thinking skills • Empathy • Interpersonal relationship skills • Effective Communication skills • Problem solving skills	Dalit families are generally poor and landless, residing in small kutcha huts built with mud and straw. They sustain themselves by working as labourers for others.	Activity sections which require students to think critically to solve a question. Find out about a programme....and methods and answering their queries.
21.	Human Resource	• Problem solving skills • Empathy • Coping with Stress	In reality, the primary goal of economic development is not merely increasing the production	Activity Corner where working together as a team and

		• Critical thinking skills • Effective Communication skills	of goods and services, but also enhancing the overall quality of life.	communication with the others is necessary. Projects. Note down the economic development.....implications of unemployment.
22.	Poverty as a Challenge Facing India	• Coping with Emotions • Problem solving skills • Empathy • Coping with Emotions • Coping with Stress • Critical thinking skills	This reflects the poor living standards of the people and the prevalence of poverty in the country.	Questions which provide development for the cognitive skills of the learner. Explain the measure which....problem of poverty.
23.	Food Security in India : Sources of Foodgrains	• Coping with Stress • Empathy • Coping with Emotions • Critical thinking skills • Problem solving skills	If scarcity persists for an extended period or spreads across a large region, it can result in starvation, and widespread starvation may ultimately lead to hunger.	
24.	Public Utility Cards	• Coping with Stress • Critical thinking skills • Creative thinking skills		Activity Corner which expect the learner to use their creativity and imaginative ideas more precisely. Make a powerpoint presentation.....cards in your notebook.
25.	Disaster Management	• Coping with Stress • Problem solving skills	Those residing in unhygienic environments, congested slums, and overcrowded areas are more	Activity Corner where the learner needs to solve a conditions and give conclusions.

		• Coping with Emotions • Empathy • Critical thinking skills	vulnerable to communicable diseases like plague.	Choose an industry close.....mitigate the after-effects of the disaster.
26.	Road Safety	• Empathy • Critical thinking skills	Each year in India, over 1.5 lakh people lose their lives in road accidents, while several lakhs more are injured or left disabled.	

Book Name : Secondary Science Textbook for MBSE class – IX

Sl.no	Chapter Name	Life Skills	Examples	Exercises / Activity
1.	Motion	• Problem solving skills • Critical thinking skills	A car begins from rest and reaches a speed of 18 m/s in 10 seconds. Find the car's acceleration.	Questions which prepare the learner to solve complicated scientific exercises. A body is thrown.....height of 10 m.....calculate the total displacement.....of the body.
2.	Force and Laws of Motion	• Critical thinking skills • Problem solving skills • Creative thinking skills	Will a ball rolling on the ground keep moving endlessly? Can an object at rest begin to move on its own without an external force? Is it possible to remove the cork from a ketchup bottle without applying any effort?	Questions which provide opportunities to learner to make use of their innovative ideas. Explain Newton's.....life experience on these laws.

3.	Gravitation and Floatation	• Creative thinking skills • Critical thinking skills • Problem solving skills	He wondered that if gravity could act at the top of a tree, shouldn't it also extend farther reaching all the way to the moon?	Questions section which enable the learner to develop their analytical skills When a ball.....towards itself. Does the ball.....towards it?
4.	Work and Energy	• Problem solving skills • Creative thinking skills • Critical thinking skills		Activity section which provide opportunity to the learner to develop their cognitive skills. Drop a shotput.....mark the depressions separately. Make sure.....and which one is the shallowest?
5.	Sound	• Critical thinking skills • Problem solving skills • Creative thinking skills	Sound plays an important role in our lives, and a world without it would be extremely challenging. Devices like radios, televisions, and telephones all rely on sound. But what exactly is sound?	Questions section which enable the learner to enhance their thinking skills. Although sound is produced....not produce sound. Why?
6.	Matter in our Surroundings	• Creative thinking skills • Problem solving skills • Critical thinking skills	Humans have always been eager to understand the nature and behavior of the world around them. In this pursuit, they attempted to classify matter in various ways.	
7.	Is Matter Around us Pure	• Problem solving skills • Critical thinking skills • Creative thinking skills		Questions which provide statements to improve the learners cognitive skills. Are colloidal solutions homogenous.....of your answer?

8.	Atoms and Molecules	• Problem solving skills • Critical thinking skills • Decision making skills	Once we understand atomic symbols and atomic masses, a key question arises: how do atoms actually exist?	Questions which require the learner to decide on certain conditions on scientific phenomena. You are asked....water from the medical store....water would you buy?
9.	Structure of Atom	• Critical thinking skills • Problem solving skills		Questions which the learner need to think critically and use their analytical skills. Calculate the number of....mass number of this species?
10.	The Fundamental Unit of Life	• Creative thinking skills • Problem solving skills • Critical thinking skills		Questions which the learner needs to use their imaginative ideas to develop their creative skills. Draw a well.....an animal cell.
11.	Tissues	• Critical thinking skills	Mention any two roles performed by nervous tissues.	
12.	Diversity in Living Organisms	• Creative thinking skills • Problem solving skills • Critical thinking skills	Aristotle's method of classification was quite crude and unscientific. It was misleading because he grouped all animals living in the air under the aerial category, even though they shared only the same habitat. Therefore, such a system of classification is unsuitable for the modern world and must be discarded.	Question section which require to use cognitive skills by the learner. Thallophyta, bryophyta and pteridophyte...and angiosperm.
13.	Why Do We Fall Ill	• Critical thinking skills • Problem solving skills • Coping with Stress	What will be the consequence if no one takes charge of keeping the drains clean and preventing	Questions which enable the learner to employ their thinking skills efficiently.

		• Empathy • Creative thinking skills	wastewater from accumulating in streets or open areas?	Compare acute.....with chronic diseases.
14.	Natural Resources	• Critical thinking skills • Problem solving skills • Coping with Stress • Creative thinking skills	Breathing in these gases is highly harmful, and when they mix with rain, they lead to the formation of acid rain.	Questions section which encourage the learner towards their creative skills. A student was asked...in nature.....help of arrows. Complete the same.
15.	Improvement in Food Resources	• Critical thinking skills • Problem solving skills		Questions column which provide opportunities to develop the learners' cognitive skills. What would happen ifwhat method will be employed?

Book Name : Learning Maths Bilingual Textbook for MBSE Class – IX

Sl.no	Chapter Name	Life Skills	Examples	Exercise / Activity
1.	Real Numbers	• Critical thinking skills • Problem solving skills • Creative thinking skills	It is clear that the number is non-terminating and non-repeating. Hence, by the stated property, it is irrational. Similarly, infinitely many irrational numbers like π can be generated.	Questions which pose queries on how the learner needs to implement their creativity in certain situations. Are the squares.....all positive integers irrational? If not.....is a rational number.
2.	Sets	• Creative thinking skills	For instance, take the list of the ten most famous mathematicians in the world. Would you expect	Questions which require the students to think critically and find solutions.

		• Problem solving skills • Critical thinking skills	every person to choose exactly the same names for their list?	Are the following pairs of set equals? Make correct statements by.....blank spaces.
3.	Compound Interest, Growth and Depreciation	• Problem solving skills • Creative thinking skills	Grasping the concept of compound interest is valuable not just for those pursuing careers in financial institutions, but also for anyone intending to make investments.	Questions which give queries to develop the cognitive skills of the learners. The difference between the.....find the sum.
4.	Ratio and Proportion	• Problem solving skills • Critical thinking skills	If 1 kg of sugar costs 35 rupees, then what will be the price of 3 kg of sugar?	Questions which require the students to use their cognitive skills. What same number must be.....ratio becomes 2 : 3?
5.	Cost of Living Index	• Critical thinking skills • Problem solving skills	We state that the cost of living index number for the year 2014, taking 2010 as the base year, is 126.50. Here, 2010 serves as the base year while 2014 is the current year. What inference can you draw from this information?	Questions which encourage the learner to utilized their cognitive skills. The aggregate.....on certain quantities of eight.....find the total expenditure....eight household consumables in 2014.
6.	Sales Tax	• Problem solving skills		Questions which pose queries where cognitive skills is required to solve the questions. Mila purchased a computer.....rate of sales tax.
7.	Polynomials	• Critical thinking skills	Can you construct a polynomial in a single variable of degree n for any natural number n?	Questions where cognitive skills is required for the problems given.

		• Problem solving skills		By actual division.....is divided by the second polynomials.
8.	GCD and LCM of Polynomials	• Problem solving skills		Questions which encourage cognitive skills to the learners to enhance their thinking skills. The GCD of two polynomial.....if one of the polynomials...find the other.
9.	Linear Equations in Two Variables	• Critical thinking skills • Problem solving skills • Creative thinking skills	Does a linear equation in two variables always have a solution? If it does, is that solution unique? How is the solution represented on the Cartesian plane?	Question which require the learner to use their creativity and imaginative ideas to come to conclusion. In a T20 international cricket match...batsman together.....linear equation in two variables....information.
10.	Lines and Angles	• Critical thinking skills • Problem solving skills	When a transversal cuts across two parallel lines, each pair of corresponding angles is equal. Is the converse of the corresponding angles axiom also valid?	Questions where the learner need to solve queries to come to conclusions. If a transversal....of a pair of corresponding angles.....are parallel.
11.	Congruence of Triangle	• Critical thinking skills • Problem solving skills	Do you notice that having two sides equal along with the included angle is sufficient to establish the congruence of triangles?	Question section which enable the learner to utilized their cognitive skills. AB is a line segment and line.....equidistant from A and B.
12.	Properties of a Triangle	• Problem solving skills	In an isosceles triangle, prove that the angle bisector of the vertex	Questions section where cognitive skills is emphasized.

		• Critical skills • Creative skills	thinking thinking	angle (formed by the equal sides) also acts as a median, an altitude, and a perpendicular bisector of the triangle.	In fig.12.15, ABC is an isosceles.....mid-point of BC. Show that...all lie on AD.
13.	Quadrilaterals and Parallelograms	• Problem skills • Critical skills	solving thinking	Can you express the converse of Theorem 13.5? Also, is this converse valid?	Questions where cognitive skills is stressed in the sections. Show that the.....of the adjacent sides.....is also a square.
14.	Area	• Critical skills • Problem skills	thinking solving	Is there a connection between the areas of two parallelograms that share the same base and lie between the same parallels?	Questions which emphasised cognitive skills in order to enhance the students capacity. Prove that of all.....the parallelograms which is a.....greatest area.
15.	Constructions	• Creative skills • Critical skills	thinking thinking		Questions where creativity and innovative skills is encouraged. Construct a triangle...in area to this quadrilateral.
16.	Circles	• Critical skills • Problem skills	thinking solving	What happens when two chords of a circle are equal? Will they subtend equal angles at the centre or not?	Question section where thinking skills is emphasised to enhance the learner cognition. If two circles.....lie on the perpendicular....common chord.
17.	Coordinate Geometry	• Critical skills • Problem skills	thinking solving	Is it possible to plot points on a plane when their coordinates are given?	
18.	Trigonometric Ratios	• Problem skills	solving	Can you determine the height of a building without directly measuring it? Or, if the height at	Exercises content which encourage the learner to utilized their ability to

		• Critical skills thinking	which a person is sitting is known, can you calculate the width of the road?	think analytical to find the solutions. A circus artist is climbing.....a vertical pole to the ground. Find the.....ground level is 30°
19.	Trigonometric Identities	• Problem skills solving		Question sections where problem solving skills is utilized to find the solution. Prove the following...are acute angles for which.....are defined.
20.	Area of a Triangle and a Quadrilateral	• Critical skills thinking • Problem skills solving	Now, if only the lengths of the three sides of a scalene triangle are given, and the height is not known, can you still calculate its area?	Question section where thinking skills is stressed and emphasized. The perimeter of a triangle.....less than twice the smaller sides. Find the.....triangle.2
21.	Surface Areas and Volumes	• Critical skills thinking • Problem skills solving	Suppose you want to wrap a cylinder with coloured paper. How can you do it using the least amount of paper?	Exercises where problem solving skills is emphasized to enhance the learners' cognition. A cylindrical tube opened.....which is 2cm thick. If the outer.....used in making the tube.
22.	Statistics	• Critical skills thinking • Problem skills solving • Creative skills thinking	If two new students with heights of 153.3 cm and 165.5 cm join the class, in which intervals should their heights be placed?	Question section in which the learner need to utilized their thinking skills effectively. 5 people were asked about.....in their community. They said 10,7,13,20.....for social work.

23.	Probability	• Critical thinking skills • Problem solving skills		Activity question where thinking skills is stressed and encourage the learner to enhance their cognitive skills. Ask all the students in your.....at random. What is the.....is divisible by 9.
-----	-------------	--	--	---

Book Name :Footprints...Our Past, Planet and Society, Social Science Textbook for MBSE Class-X

Sl.no	Chapter Name	Life Skills	Example	Exercises / Activity
1.	Nationalism in Europe	• Coping with Emotions • Coping with Stress • Empathy • Problem solving skills • Interpersonal relationship skills • Decision making skills • Effective communication skills • Creative thinking skills • Critical thinking skills	In a traditional aristocratic system, power was concentrated in the hands of the royalty, nobility, and clergy, while the common people held very little significance.	A section of questions where learners must use their creativity to produce a well-structured and appealing outline. 2On an outline map of Italy.....places.

2.	Nationalism in India	• Coping with Emotions • Coping with Stress • Empathy • Effective Communication skills • Creative thinking skills • Critical thinking skills	Relief was denied to victims even in times of disasters like droughts and famines. The revenue system implemented by the British compelled peasants to pay excessively high taxes.	A section of questions in which each column contains statements designed to incorporate cognitive skills. Critically examine the main.....1920 and 1935. Briefly comment on...some examples.
3.	Age of Industrialization	• Coping with Stress • Problem solving skills • Empathy • Coping with Emotions • Interpersonal relationship skills • Critical thinking skills • Creative thinking skills	This created the need for increased production, but merchants were unable to expand manufacturing within the towns.	A question section that emphasizes cognitive skills to strengthen learners' thinking abilities. How did the Swadeshi.....in India? Discuss the reasons for.....the colonial period.
4.	Making of a Global World	• Interpersonal relationship skills • Empathy • Problem solving skills • Coping with Stress	It led to the deaths of many people and made it easier for the white settlers to conquer the native population.	An exercises section that motivates learners to apply their cognitive skills. Briefly discuss the economic.....of European Union.

		• Critical thinking skills • Creative thinking skills		
5.	Print Culture and the Modern World	• Creative thinking skills • Problem solving skills • Critical thinking skills • Empathy • Coping with Emotions	Therefore, the printing press, capable of producing numerous books more quickly and at a lower cost, was regarded as a revolutionary technological innovation.	A class discussion box that requires effective communication skills to foster meaningful connections. What does the term....of print culture?
6.	Resources and their Development	• Problem solving skills • Coping with Stress • Creative thinking skills • Empathy • Critical thinking skills	The concentration of resources among a few individuals has caused social inequality, leading to a growing gap between the rich and the poor.	Activity corner where mapping and outlining of certain location is given.
7.	Forest and Wildlife Resources	• Coping with Stress • Empathy • Problem solving skills • Interpersonal relationship skills • Coping with Emotions	A species can become extinct locally, nationally, or globally. For instance, the Asiatic cheetah and the Himalayan quail are now extinct.	Activity corner where mapping skills of a location is required to develop the learners' creative skillset

		• Critical thinking skills • Creative thinking skills		
8.	Water Resources	• Problem solving skills • Coping with Stress • Coping with Emotions • Critical thinking skills • Creative thinking skills	Rainfall in the country is highly irregular and unevenly distributed. Some regions of India experience floods, while others suffer from droughts or famines.	
9.	Agriculture	• Coping with Stress • Problem solving skills • Empathy • Critical thinking skills • Creative thinking skills	Frost negatively affects its growth, and rainfall during the harvest period is harmful because it discolors the cotton.	A question section that allows learners to effectively apply their cognitive skills. Examine the effects of.....agriculture.
10.	Minerals and Power Resources	• Coping with stress • Problem solving skills • Coping with emotions • Critical thinking skills	Gas is also valuable for boosting agricultural production, as it serves as a raw material in fertilizer manufacturing.	An activity corner where learners need to use their creative thinking skills to answer the questions. On a map of India.....power stations.

		• Creative thinking skills		
11.	Manufacturing Industries	• Problem solving skills • Coping with Emotions • Critical thinking skills • Creative thinking skills	After India gained independence, most jute-growing regions became part of Bangladesh, resulting in a raw jute shortage. Despite attempts to boost production, it still does not meet current demand.	A question section that promotes the development of cognitive skills. Which factors facilitate.....cotton textile.....in Maharashtra?
12.	Transport, Communication and Trade	• Interpersonal relationship skills • Problem solving skills • Effective Communication skills • Creative thinking skills • Critical thinking skills	These services create a network connecting distant regions, thereby promoting trade and commerce and contributing to the country's development.	
13.	Working of Democracy	• Empathy • Coping with Emotions • Interpersonal relationship skills • Critical thinking skills	What is notable is that individuals with low social status also face hardships because of their poor economic conditions.	A class discussion box that requires the use of critical and analytical skills. A feature of an overlapping.....with another. Explain this in.....in India.

		• Creative thinking skills • Coping with Stress		
14.	Power - Sharing	• Critical thinking skills • Problem solving skills • Creative thinking skills • Coping with Stress • Empathy • Decision making skills • Interpersonal relationship skills • Coping with Emotions	Can you recall any event in Germany, Italy, or Chile during the 20th century that involved a change in the type of government?	A question section that encourages learners to develop and enhance their thinking skills. Explain what is implied.....a coalition government.
15.	Competition and Contestation in Democracy	• Coping with Stress • Empathy • Problem solving skills • Decision making skills • Critical thinking skills • Self awareness skills • Interpersonal relationship skills	Thousands of people defied the curfew, took to the streets, and protested against the king, demanding the establishment of democracy.	Question sections that prompt learners to actively engage and apply their thinking skills. Trace the rise of two....on the politics of India.

		• Coping with Emotions • Creative thinking skills		
16.	Outcomes of Democracy	• Interpersonal relationship skills • Problem solving skills • Critical thinking skills • Decision making skills • Empathy • Self-awareness skills • Creative thinking skills	In a democratic nation, every adult citizen holds the right to vote and choose their representatives, who collectively form the legislature and the government.	
17.	Challenges to Democracy	• Problem solving skills • Coping with Emotions • Empathy • Decision making skills • Critical thinking skills	When monarchy was replaced by the people's will and democracy was introduced, the nation encountered several fundamental challenges.	Question sections that motivate learners to develop and apply their thinking skills. Examine the status of.....in India.
18.	The Story of Development	• Coping with Stress • Problem solving skills	The Indian economy experienced a prolonged phase of stagnation under British rule.	Question sections that inspire learners to think critically and put their reasoning skills into practice.

		• Critical thinking skills		Is per capita income....development? Explain.
19.	Role of the Service Sector in Indian Economy	• Problem solving skills • Critical thinking skills • Coping with Stress • Empathy	Think about the consequences if a transport strike prevents us from receiving essential goods like food grains and vegetables, and stops industries from obtaining raw materials such as cotton and sugarcane.	Question sections that emphasize the development of thinking skills within the content. State and briefly discuss.....earning foreign exchange.
20.	Money and Financial System	• Problem solving skills • Creative thinking skills • Coping with Stress • Empathy • Critical thinking skills	However, using these goods as money had several limitations, such as the absence of standardization, indivisibility, perishability, and difficulty in storage.	Activity corners that encourage learners to use their creativity and innovative ideas to arrive at conclusions. Visit a commercial bank.....compare the borrowing.....two groups.2
21.	Globalization and the Indian Economy	• Interpersonal relationship skills • Coping with Emotions • Problem solving skills • Effective Communication skills • Coping with Stress • Empathy • Critical thinking skills	Fast economic growth was necessary to increase income levels, eradicate poverty, enhance the quality of life, and reduce economic disparities. To achieve this, various development strategies were implemented.	

22.	Consumer Awareness	• Coping with stress • Empathy • Problem solving skills • Self-awareness skills • Critical thinking skills	Consumers often complain that manufacturers of these products fail to provide sufficient, satisfactory, and timely after-sales services.	Questions that place emphasis on developing learners' cognitive skills. Why are the rules and.....to protect consumers?
23.	Disaster Management	• Coping with Stress • Problem solving skills • Empathy • Interpersonal relationship skills • Critical thinking skills • Creative thinking skills	Insufficient resources result in unstable housing structures that put people at risk.	
24.	Survival Skills	• Problem solving skills • Critical thinking skills • Self-awareness skills • Coping with Stress		Questions that integrate application-based tasks within the content. State the signs and symptoms.....suffered a fracture.
25.	Alternative Communication Systems	• Problem solving skills • Critical thinking skills	Details about disaster victims, their needs, and those of the rescue team must be quickly conveyed to the appropriate authorities so that	

			effective actions can be taken promptly in the right direction.	
--	--	--	---	--

Book Name : Secondary Science A Bilingual Textbook for MBSE Class – X

Sl.no	Chapter Name	Life Skills		Example	Exercises / Activity
1.	Periodic Classification of Elements	• Creative skills • Critical skills • Decision skills	thinking thinking making		Section of questions that motivate learners to apply their decision-making abilities. Name two element you.....basis of your choice?
2.	Chemical Reactions and Equations	• Critical skills • Creative skills • Problem skills	thinking thinking solving	Corrosion takes place when metals are affected by surrounding substances like moisture, acids, and others. As a result, metallic objects lose their appearance and, in some cases, get completely damaged.	Section of exercises designed to encourage learners to apply critical and analytical thinking. A metal M was placed in.....on metal M. Which is more reactive.....explain.
3.	Metals and Non – Metals	• Critical skills • Problem skills • Creative skills • Decision skills	thinking solving thinking making	The bond is termed an ionic bond since it is formed through the electrostatic force of attraction, also known as an electrovalent bond. But what exactly is meant by electrostatic force of attraction?	Section of questions that emphasizes the development of the learner's cognitive skills. A man went door to door.....in a particular solution. The bangles....was reduced.....he had used?

4.	Acids, Bases and Salts	• Critical skills • Problem skills • Creative skills • Empathy	thinking solving thinking	We know that acids have a sour taste and turn blue litmus red, while bases taste bitter and turn red litmus blue. But do you know what litmus actually is?	Section of questions that focuses on enhancing learners' thinking skills. Dry HCL gas does not.....give reasons.
5.	Carbon and its Compound	• Creative skills • Critical skills • Problem skills • Interpersonal relationship skills • Coping with Stress	thinking thinking solving	Carbon forms covalent bonds with other atoms in its compounds. In every compound, carbon shows a valency of four, meaning it is tetravalent. But what exactly is a covalent bond, and what does tetravalent mean?	Section of questions that highlights thinking skills while encouraging creativity and innovative ideas. A compound C reacts.....a pop sound. Compound C on treatment.....gives back R and A. Identify.....reaction involved.
6.	Life Processes	• Critical skills • Creative skills • Problem skills • Coping with Stress	thinking thinking solving	Can you picture what might occur if all saprophytes vanished from the Earth? In fact, if we view them positively, they act as nature's true scavengers, such as fungi.	Section of questions that requires learners to put their thinking skills into practice. Dark reaction of photosynthesis.....need light. Do plants.....at night? Explain
7.	Control and Coordination	• Critical skills • Problem skills • Creative skills	thinking solving thinking	Unlike animals, plants lack a nervous system for control and coordination, yet they still respond to external stimuli such as touch, light, and chemicals. So, how exactly do they react to these stimuli?	Section of questions that places emphasis on developing cognitive skills. Endocrine glands are....to the target organs?

8.	How do Organisms Reproduce?	• Critical thinking skills • Problem solving skills • Coping with Stress • Empathy • Creative thinking skills	Overpopulation gives rise to several issues such as unemployment, poverty, poor hygiene, pollution, and the depletion of natural resources.	Section of questions that calls for creativity and imaginative thinking to visualize and respond effectively. Draw a diagram of a flower.....reproductive parts.
9.	Heredity and Evolution	• Critical thinking skills • Coping with Emotions • Creative thinking skills	Every trait in a child has two versions. Which of these versions will actually appear in the child?	Set of questions that encourages learners to use creativity and imagination to picture situations and respond meaningfully. Prepare a diagrammatic account.....cross.
10.	Our Environment	• Creative thinking skills • Problem solving skills • Coping with Emotions • Critical thinking skills • Coping with Stress	Humans are the only organisms capable of controlling and shaping the atmosphere to suit their needs, owing to their intelligence and the many scientific discoveries and inventions they have made.	
11.	Light-reflection and refraction	• Coping with stress • Critical thinking skills • Problem solving skills	Without changing your position, ask your friend to slowly pour water into the bowl without shifting the coin. Once the bowl is filled, the coin will become visible.	Section of questions that requires problem-solving skills to draw meaningful conclusions. A concave mirror produces.....from the mirror. Find the position.....the mirror.

		• Interpersonal relationship skills • Self-awareness skills • Creative thinking skills		
12.	The Human Eye and the Colourful World	• Self awareness skills • Critical thinking skills • Problem solving skills • Creative thinking skills	On a sunny day, the sky can appear blue, sometimes orange-red, or even greenish-yellow. However, the sky itself has no color. So why does it appear colored to us.	Section of questions that requires learners to engage in critical thinking and analysis to reach conclusions. Describe with the help of a ray.....components while.....glass prism.
13.	Electricity	• Problem solving skills • Critical thinking skills • Creative thinking skills	When a bulb blows, it becomes difficult to find and replace the fused bulb, which is why electricians often spend considerable time locating it. If one bulb fails, the entire system stops working.	
14.	Magnetic Effects of Electric Current	• Critical thinking skills • Creative thinking skills • Problem solving skills	Is it possible to generate electricity by moving a conductor through a magnetic field?	Section of questions that requires critical thinking skills to respond effectively to the given prompts. Consider a circular loop.....the loop clockwise. Apply the right-hand.....outside the loop.
15.	Sources of Energy	• Critical thinking skills • Coping with Stress	When carbon dioxide enters the blood, it binds with hemoglobin, reducing the amount of oxygen carried. This can lead to	

		• Problem solving skills • Empathy • Coping with Emotions • Creative thinking skills	suffocation, as well as symptoms like headache and dizziness.	
--	--	---	---	--

Book Name : Learning Maths Bilingual Textbook for MBSE Class – X

Sl.no	Chapter Name	Life Skills	Examples	Exercises / Activity
1.	Instalments	• Coping with Stress • Problem solving skills	At times, a buyer may desperately need an item but is unable to buy it because of insufficient funds.	Questions designed to develop learners' problem-solving abilities. A computer is available.....half yearly instalments. If the rate.....value of each instalment.
2.	Time and Distance, Time and Work	• Critical thinking skills • Problem solving skills	Everyday projects are carried out based on specific requirements. Generally, the more people involved, the less time it takes to finish a task. In many cases, time and work are inversely related.	Questions aimed at enhancing learners' skills in solving problems. Adrian can do a piece.....work in 12 days. With the help.....take to finish it?
3.	Polynomials	• Critical thinking skills	The zero of a linear polynomial is connected to its coefficient. Does	

		Problem solving skills	this relationship hold for other types of polynomials as well?	A set of questions that demands problem-solving skills to arrive at meaningful conclusions. If the HCF of the polynomials.....be $(x-2)$of $f(x)$ and $g(x)$.
4.	Linear Equations in Two Variable	- Problem solving skills - Critical thinking skills - Creative thinking skills	We can attempt this by considering different scenarios. If he has one ride, is it feasible? What about having two rides?	A set of questions that focuses on enhancing cognitive skills. Dylan tells his daughter.....you were then. Also, three years....present ages.
5.	Quadratic Equations	- Problem solving skills - Critical thinking skills	.	A group of questions aimed at strengthening the learner's cognitive abilities. Determine the positive.....will both have real roots.
6.	Arithmetic Progression	- Critical thinking skills - Problem solving skills	Now provide additional examples and engage in a discussion about them in your class.	A set of questions that prompts learners to actively apply their thinking skills. Emily applied for a job.....in her monthly salary. In the fifth year.....her monthly salary?
7.	Sets	- Problem solving skills - Critical thinking skills	Most relationships between sets can be illustrated using diagrams called Venn Diagrams.	A set of questions that encourages learners to enhance their cognitive abilities.

		• Creative thinking skills		In an examination, 63% of the.....in both English and ICT. Find the percentage.....the subjects.
8.	Triangles	• Critical thinking skills • Problem solving skills		A group of questions designed to help learners strengthen their thinking skills. Using theorem 8.1, prove.....bisects the third side.
9.	Circles	• Critical thinking skills • Problem solving skills • Creative thinking skills	If two arcs of a circle are equal, their corresponding chords are also equal, and vice versa—if two chords are equal, their corresponding arcs are congruent. Can you explain why this is true?	An activity section that requires learners to use their thinking skills to arrive at solutions. Draw several cyclic quadrilaterals.....the opposite angles and.....table that follows.
10.	Constructions	• Critical thinking skills • Problem solving skills	But if we cannot measure it accurately, how can we determine the points?	Questions that require the application of thinking skills in responding to the queries. Draw a circle of radius.....of the circle. Without using the centre.....circle from point P.
11.	Coordinate Geometry	• Critical thinking skills • Problem solving skills	We have already studied Heron's formula for calculating the area of a triangle. Now, if the coordinates of its vertices are provided, can you determine its area?	Questions that present statements encouraging the application of thinking skills. Find the area of the triangle....vertices are 0,2 and 2,1.

				Find the ratio.....of the given triangles.
12.	Trigonometric Identities	• Problem solving skills		A set of questions that demands the efficient use of thinking skills. Prove the following identities.....for which the.....are defined.
13.	Trigonometric Ratios of Complementary Angles	• Critical thinking skills • Problem solving skills		A section of questions that calls for the effective application of thinking skills. Express each of the following.....between 0° and 45°
14.	Heights and Distances	• Critical thinking skills • Problem solving skills	In a right triangle ABCABC, side BCBC is opposite the given angle AA. Which trigonometric ratios can be applied here? Among them, which ratio involves the two known values and the one we need to determine?	Questions that present statements encouraging the application of thinking skills. A kite is flying at a height.....on the ground. The inclination of.....in the string.
15.	Areas Related to Circles	• Critical thinking skills • Problem solving skills • Creative thinking skills		A set of questions that highlights thinking skills to support the learner's cognitive development. From each of the two opposite.....1.4 cm is cut. Find the area.....of the square.

16.	Surface Areas and Volumes	• Critical thinking skills • Problem solving skills • Creative thinking skills	If we need to calculate the surface areas, volumes, or capacities of such objects, how should we approach it?	A question section that requires the use of thinking skills to arrive at solutions. A toy is in the shape....the other. The radii of the hemisphere....cylindrical part. Find the surface....the toy is 30 cm.
17.	Mean, Median and Mode of Grouped Data	• Critical thinking skills • Problem solving skills • Effective Communication skills		An activity section that requires critical analysis of the content to draw conclusions. From example 4, find the.....and so on as 'a'. What do.....observe?
18.	Probability	• Critical thinking skills • Problem solving skills	What would the experimental probability of getting a head be if the experiment is repeated, say, one million times, or even 20 million times, and so on?	Questions that requires critical thinking skills to respond and draw conclusions. One card is drawn from a.....52 cards. Calculate the.....will be a king.
19.	Pictorial Representation of Data	• Critical thinking skills • Problem solving skills		A section of questions that focuses on the application of thinking skills. In gif 19.9, the pie chart....a building. Find the percentage.....in the pie chart. If

				the total cost.....on timber and cement.
--	--	--	--	--

3.4.2. Semi – structure Interview

Interviews are conducted to collect information or data about a person or an event. They serve as a valuable tool for obtaining insights about candidates that may not be accessible through other sources (Powis, 1998; Abbasi, 1998). For this study, semi-structure interview is adopted to acquired required information from the secondary school headmaster of the selected school in Mizoram. Thus, semi-structured interview is a widely used research method in the social sciences. Hyman et al. (1954) describe “interviewing as a universal tool of inquiry within this field”. According to Magaldi and Berler (2020), a “semi-structured interview functions as an exploratory approach, usually guided by a framework. They further note that while it follows a structured outline, it remains centered on the main theme, offering a broad direction for the discussion”.

In a semi-structured interview, the interviewer typically works in align with the set of themes to be studied. Rubin and Rubin (2005, p.171) note that “effective interviews usually strike a balance between core questions, follow-up queries, and probing”. Even though flexibility is important, the interviewer should try to address all the key points carefully planned beforehand. Many scholars emphasize the value of preparing an interview guide, which serves as an informal collection of themes and questions that can be posed in various ways to different respondents (Lindlof & Taylor, 2002). “Such a guide helps maintain focus on essential issues while allowing flexibility, enabling interviewers to adapt their questions to the specific context and participants involved”(Lindlof & Taylor, 2002). Although styles and traditions may differ, the semi-structured interview has certain distinct nature. Following Burgess (1984) principles, a semi-structured interview typically includes these features:

- a. **An interview guide:** The researcher prepare a list of open-ended questions and topics to ensure the conversation covers key areas of interest.

- b. Probing questions:** The interviewer asks spontaneous follow-up questions to clarify answers, explore interesting new points, and delve deeper into specific issues.
- c. A balance of control:** The researcher directs the overall flow, but the interviewee has enough freedom to discuss what they feel is most important, revealing unexpected insights.
- d. Focus on interpretation:** This method seeks to understand the world from the subject's point of view, exploring the meanings people attach to their experiences.

Thus, to collect qualitative data from the Headmasters of secondary schools, semi-structure interview method is adopted to acquire the information needed from the interviewee by keeping in mind the different features given by Burgess (1984). This method was chosen because it gives a balance in flexibility, building rapport between the interviewer and interviewee to develop interactive session and meaningful conversation and focus during the interview.

The interview schedule questions was carefully prepared by the researcher based on the objectives of the study, review of literature and Life Skills components given by the World Health Organization (WHO) and the National Education Policy (NEP) 2020 for holistic education. The researcher initially designed ten items aimed at collecting data from the headmasters of selected schools. The development of these items involved an extensive review of relevant literature, including books, journals, research articles, handbooks and established Life Skills theories. In addition, consultations and discussions were held with subject experts to ensure the content's depth and relevance. After drafting the items, the researcher sought validation from both subject matter experts and professionals from related fields to assess the clarity, relevance and appropriateness of each question. Based on the feedback and validation received, necessary revisions were made. Ultimately, five of the original ten items were retained for the final interview schedule, while the remaining five items were eliminated due to redundancy, lack of

relevance or overlapping content. This process ensured that the finalized items were valid and well-aligned with the study's objectives. It consisted primarily of open-ended questions, organized around the following broad themes:

- Headmaster's awareness on Life Skills education.
- How Life Skills are incorporated inside the classroom teaching by the teacher.
- The strategies adopted by school to promote Life Skills education beyond classroom teaching.

Before initiating data collection in schools, the researcher first sought formal permission from the District Education Officer (DEO) of each selected district. After securing approval, an official consent letter was obtained from the DEO's office, it was presented to the respective schools during the visits. In total, twelve headmasters were interviewed to gather their perspectives and experiences concerning Life Skills education and its implementation within their institutions.

All interviews were conducted personally by the researcher, typically in the headmasters' offices to ensure a comfortable and familiar environment. Each interview lasted approximately 20 to 30 minutes. To encourage honest and open discussions, the researcher adopted a conversational and respectful tone, creating an atmosphere of trust and rapport. At the beginning of each session, the researcher initiated informal dialogue to build a positive relationship with the interviewee, which helped elicit more detailed and thoughtful responses.

The semi-structured format of the interview allowed flexibility. While guided by prepared questions by the researcher (see Appendix C), the discussions often expanded to cover related topics that emerged naturally during the conversation. These unplanned but relevant insights were considered valuable for the study. With the consent of participants, the researcher noted down key points and in some cases, audio recordings of the entire session were made to enhance the accuracy of data collection. After completion, the

recorded and written responses were carefully transcribed. The data was then analyzed thematically, allowing the researcher to identify patterns, themes and significant insights regarding the headmasters' understanding and practices related to Life Skills education.

3.4.3. Teachers' Life Skills Assessment Scale (TLSAS)

Teachers' Life Skills Assessment Scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal was employed to assess and identify the perception of secondary school teachers' towards Life Skills education. This level of Life Skills among the secondary school teacher was measured in four areas like Effective communication skills, Collaboration skills, Creative thinking skills and Critical thinking skills. This scale consist of both negative and positive statements with 14 items negative statements with item number 2,10,18,20,27,28,33,34,35,41,45,47,52,53 and the remaining items are positive statements. The following table illustrate the relationship between various items and the different areas that make up the scale.

Table 3.6. Dimensions of Life Skills with number of statement

1.	Effective Communication Skills Total statements = 13 statements
	a) General communication – refers to everyday interactions with family, friends, colleagues and authorities. b) Communication in the teaching-learning process – covers exchanges that take place within and beyond the classroom, either during lessons or before/after classroom activities. c) Technology-mediated communication – involves the use of technological tools to connect with family and friends, interact with professional groups (formally and informally) and engage with students both inside and outside classroom settings.
2.	Collaboration Skills Total statements = 12 statements

	a) General collaboration – involves working together with family, friends, colleagues, and authorities. b) Collaboration in the teaching–learning process – includes practices such as team teaching, engaging in group projects, encouraging students to collaborate in class, and assigning tasks that foster teamwork. c) Technology-enabled collaboration – refers to working jointly with others through digital tools for professional growth, assigning students tasks that integrate technology, and promoting teamwork in virtual or blended settings.
3.	Creative Thinking Skills Total statements = 14 statements
	a) General creativity – relates to applying creative thinking in everyday situations. b) Creativity in the teaching–learning process – involves using innovative approaches in teaching and learning, such as presenting concepts in imaginative ways to enhance student understanding and nurturing creativity among learners. c) Creativity through technology – refers to utilizing technology in inventive ways for teaching purposes and exchanging creative ideas via digital platforms.
4.	Critical thinking skills Total statement = 15 statements
	a) General critical thinking – applying a critical approach in everyday life to address and manage routine problems. b) Critical thinking in the teaching–learning process – involves critically analyzing content before presenting it to students and fostering critical thinking skills among learners. c) Technology-based critical thinking – making use of technology to support decision-making, critically examining search results, and leveraging digital tools to draw well-reasoned conclusions.

3.4.3.1. Scoring

The positive statement consist of a weightage of 5,4,3,2,1 and the negative statement consist of a weightage of 1,2,3,4 and 5. The total life skills score on the scale varies from 54 to 270 showing lowest Life Skills to highest Life Skills respectively.

3.4.3.2. Reliability and Validity

The Life Skills assessment scale demonstrated high reliability. Reliability was measured using Cronbach's alpha and the split-half method with the Spearman-Brown prophecy formula, yielding values of 0.89 and 0.91, respectively. Content validity was ensured through expert evaluations and the selection of items based on item analysis.

Table 3.7. Norms for Interpretation of the Level of Teachers' Life Skills

Sl.no	Range of Raw Score	Range of z-score	Grade	Level of Teachers' Life Skills
1.	219 and above	+2.01 & above	A	Extremely High
2.	203 to 218	+1.26 to +2.00	B	High
3.	187 to 202	+0.51 to +1.25	C	Above Average
4.	165 to 186	-0.50 to +0.50	D	Average/Moderate
5.	149 to 164	-1.25 to -0.51	E	Below Average
6.	133 to 148	-2.00 to -1.26	F	Low
7.	132 and below	-2.01 & below	G	Extremely Low

3.4.4 Students' Life Skills Awareness Scale

The development and standardization of the scale followed a structured process, adhering to established steps outlined below:

3.4.4.1. Planning

To develop a rating scale for Life Skills, a systematic approach was undertaken. Relevant literature, including theoretical frameworks, research articles, newspapers, handbooks and various assessment tools, was thoroughly reviewed to clearly define the focus and scope of the study. In consultation with subject matter experts and under the guidance of a mentor, the researcher ensured the inclusion of all ten core Life Skills components identified by the WHO: Critical Thinking, Creative Thinking, Problem-Solving, Self-Awareness, Decision-Making, Interpersonal Relationships, Effective Communication, Coping with Emotions and Empathy. Additionally, the types of instructions for the scale were determined at the initial stage after selecting the skills and their respective dimensions.

3.4.4.2. Item Writing and Preparation of 1st Draft

The initial step in developing a reliable scale is to generate as many items as possible. For this scale, the researcher initially created 120 items based on guidance from the supervisor. Each item was carefully constructed to eliminate ambiguity, avoid double-barreled statements and ensure clarity. To achieve this, relevant books, journals, research articles, handbooks and Life Skills theories were systematically reviewed. Additionally, discussions and consultations with subject experts were conducted. The items were designed to be concise, clear, direct, simple and precise.

3.4.4.3. Initial try out

Once the items were prepared and finalized by the researcher, the initial draft was subjected to a preliminary trial to assess language clarity, potential ambiguities and overall effectiveness. For this initial trial, expert opinion was taken into consideration. Once the

items were prepared and finalized, the scale was reviewed by experts to assess content validity. A panel of six experts, including specialists in Life Skills, language and education was consulted for their feedback and recommendations. The suggestions provided by these experts were carefully considered and incorporated into the final draft.

3.4.4.4. Preparation of 2nd Draft for Pilot Study

After thoroughly reviewing expert opinions and suggestions on the provided items, necessary revisions were implemented to enhance clarity and effectiveness. Items that appeared ambiguous were appropriately rephrased, while excessively long sentences were condensed for improved readability. Any confusing elements were substituted and rewritten based on the feedback received. Consequently, the revised second draft contains a total of 100 well-refined items.

3.4.4.5. Group Try Out

The revised second draft of the scale was given to 200 participants to collect data for conducting an item analysis.

3.4.4.6. Item Analysis

Item analysis is a statistical process used to evaluate the quality, effectiveness and performance of individual items (questions) in a test, survey or questionnaire. It helps researchers and educators determine whether each item is measuring what it is supposed to measure and contributes to the overall reliability and validity of the assessment. This technique is used to assess and filter items based on their internal consistency, level of difficulty and ability to differentiate between respondents. To ensure the standardization of the scale, Kelley's method was employed for item analysis. In this method, responses from the highest-scoring 27% and lowest-scoring 27% of participants were compared to calculate each item's difficulty level and discrimination power.

3.4.4.7. Discriminating Power

To select the appropriate items, the discrimination power of each item is determined. The discrimination power measures how effectively an item differentiates between knowledgeable and less knowledgeable respondents. To calculate discrimination power, the scoring of the scale is first assigned and then the total scores obtained by the respondents are arranged in descending order, from highest to lowest. The top 27% and bottom 27% of the scores are then selected for comparison. This results in 54 respondents being chosen from the higher-scoring group and 54 from the lower-scoring group. Once these high and low groups are identified, the mean and standard deviation were computed for the 100 statements separately for both the upper and lower scoring groups. To examine whether there was a significant difference between the two groups, the t-value was calculated. Statements with a t-value of 2.00 or higher indicating significance at the 0.05 level of confidence were retained, while those with t-values below 2.00 indicating non-significance were discarded. Through this item discrimination process, 57 statements were eliminated, and the remaining 43 significant statements were selected for inclusion in the final scale. The mean, standard deviation and discrimination indices for both groups are presented in the following table 3.8.

Table 3.8 : t-test of Upper 27% and Lower 27% of 100 items for Students' Life Skills Awareness Scale

Item no.	High Group		Low Group		t - value	Significance
	Mean	SD	Mean	SD		
1.	3.37	0.86	3.11	0.85	1.625	Delete
2.	4.03	0.64	3.03	1.10	4.54	Retain
3.	3.29	1.11	2.45	1.2	2.8	Retain
4.	3.37	1.04	3.425	0.83	0.32	Delete
5.	3.70	0.89	3.14	1.04	2.33	Retain
6.	3.62	1.29	3.33	1.13	1.31	Delete
7.	3.10	0.80	3.18	1.27	2	Retain
8.	3.51	0.87	3.44	1.13	0.28	Delete
9.	3.27	1.48	3.46	0.95	0.86	Delete
10.	3.70	1.04	3.03	1.17	2.23	Retain
11.	3.31	1.17	3.018	1.09	1.39	Delete
12.	2.56	1.16	3.14	1.04	2.07	Retain
13.	3.66	0.98	3.33	1.12	1.22	Delete
14.	3.77	1	3.27	1.14	2.94	Retain
15.	3.85	0.80	3.33	1.09	2.16	Retain
16.	3.81	0.94	3.22	1.25	2.10	Retain
17.	3.35	0.92	3.12	0.86	1.64	Delete
18.	3.05	1.12	3.35	0.61	1.87	Delete
19.	3.55	1.01	3.74	0.92	1.35	Delete
20.	3.25	1.26	3.18	1.12	0.23	Delete
21.	3.12	0.84	2.99	0.82	0.92	Delete
22.	2.89	0.87	3.55	1.1	2.75	Retain
23.	3.70	0.89	3.14	0.89	2.54	Retain
24.	3.92	0.98	3.29	1.11	2.42	Retain
25.	3.62	1.06	3.62	0.76	0	Delete

Item no.	High Group		Low Group		t-value	Significance
	Mean	SD	Mean	SD		
26.	3.79	0.95	3.24	0.92	3.92	Retain
27.	3.14	0.89	3.48	1.19	1.30	Delete
28.	3.01	1.16	3.29	0.93	1.64	Delete
29.	3.16	1.06	2.99	1.07	0.85	Delete
30.	3.37	1.31	3.48	0.97	0.55	Delete
31.	3.87	0.98	3.22	0.63	5	Retain
32.	1.38	0.5	1.75	0.44	3.08	Retain
33.	1.45	0.5	1.78	0.95	1.73	Delete
34.	4.11	0.68	3.85	0.59	1.85	Delete
35.	4.22	0.57	3.77	0.97	2.25	Retain
36.	3.62	0.73	3.48	0.99	0.7	Delete
37.	3.14	1.04	3.14	1.04	0	Delete
38.	4.07	0.86	3.40	1.17	2.57	Retain
39.	4.07	0.86	3.48	1.06	2.45	Retain
40.	2.88	1.37	3.03	0.76	0.75	Delete
41.	2.93	1.06	2.63	1.05	1.5	Delete
42.	3.81	0.86	3.07	0.93	3.36	Retain
43.	3	1.18	3.03	0.95	0.10	Delete
44.	3.92	0.67	3.14	1.08	3.54	Retain
45.	3.53	1.26	3.31	1.08	1.1	Delete
46.	3.81	0.91	3.07	1.15	2.84	Retain
47.	3.81	0.67	3.14	1.26	2.79	Retain
48.	2.75	1.15	3.05	0.82	1.76	Delete
49.	3.24	1.26	3.24	0.76	0	Delete
50.	3.68	0.81	3.48	0.76	1.42	Delete
51.	3.85	0.88	3.88	1.01	0.21	Delete

Item no.	High Group		Low Group		t-value	Significance
	Mean	SD	Mean	SD		
52.	3.40	0.78	3.11	1.06	1.20	Delete
53.	3.07	1.51	3.37	1.07	1.25	Delete
54.	3.37	1.25	2.86	1.31	2.31	Retain
55.	3.11	1.1	2.69	1.10	2.1	Retain
56.	3.88	0.64	3.29	1.11	2.68	Retain
57.	4.22	0.79	3.09	1.10	6.64	Retain
58.	3.05	1.14	3.21	0.94	0.88	Delete
59.	3.77	1	3.51	0.99	1.08	Delete
60.	3.55	1.2	3.51	1.26	0.12	Delete
61.	2.97	1.10	3.66	0.94	2.65	Retain
62.	3.29	1.27	2.89	1.29	1.21	Delete
63.	2.19	1.12	2.73	0.82	3.17	Retain
64.	3.51	1.03	3.07	1.05	1.69	Delete
65.	2.54	1.35	2.97	0.89	2.15	Retain
66.	3.01	1.07	2.95	0.72	0.35	Delete
67.	3.44	0.91	3.55	1.03	0.45	Delete
68.	3.55	0.83	3.29	1.11	1.08	Delete
69.	3.14	1.17	3.51	0.95	2.17	Retain
70.	3.29	1.21	3.33	1.18	0.12	Delete
71.	3.66	0.86	3.14	1.009	2.36	Retain
72.	3.12	1.31	2.97	1.03	0.75	Delete
73.	2.95	1.36	3.27	0.95	1.6	Delete
74.	3.96	1.17	3.37	0.96	0.84	Delete
75.	3.59	1.16	2.52	1.009	6.29	Retain
76.	3.77	0.95	3.40	1.13	1.42	Delete
77.	2.32	0.86	3.16	0.71	6.46	Retain

Item no.	High Group		Low Group		t-value	Significance
	Mean	SD	Mean	SD		
78.	3.29	0.99	3.20	1.10	0.52	Delete
79.	3.03	1.10	3.62	1.16	2.10	Retain
80.	3.38	1.17	3.09	0.94	1.70	Delete
81.	3.12	0.98	3.07	0.73	0.38	Delete
82.	2.63	1.17	3.40	1.02	4.52	Retain
83.	3.48	0.83	2.86	1.17	2.38	Retain
84.	3.92	0.96	3.25	0.83	4.78	Retain
85.	3.55	1.13	3.44	1.25	0.36	Delete
86.	3.05	1.05	3.37	0.82	1.88	Delete
87.	3.33	1.09	3.55	1.03	0.84	Delete
88.	3.48	1.02	3.33	1.15	0.57	Delete
89.	3.37	1.19	3.40	1.17	0.15	Delete
90.	2.12	1.18	3.44	0.97	8.35	Retain
91.	4.33	0.45	3.03	1.06	5.90	Retain
92.	3.92	0.67	3.48	0.99	2.2	Retain
93.	3.40	1.19	2.78	1.31	1.87	Delete
94.	4.25	0.37	3.62	1.02	3.5	Retain
95.	3.92	1.01	3.74	1.05	1.05	Delete
96.	2.99	0.98	3.09	0.79	0.71	Delete
97.	2.26	0.92	3.40	1.1	4.38	Retain
98.	3.62	0.93	3.5	0.97	0.85	Delete
99.	3.77	0.83	3.74	1.004	0.13	Delete
100.	3.61	1.004	3.22	1.13	2.29	Retain

3.4.4.8. Final Draft

The final draft was developed after applying all the necessary statistical tools for item analysis. Out of the 100 items tested during the trial phase, only 43 items were retained and selected for the final version.

3.4.4.9. Reliability

Reliability is a crucial characteristic of a research instrument, indicating the consistency of scores or results. It measures the stability of the instrument's outcomes when applied repeatedly. To assess internal consistency and reliability, Split-Half Method and Cronbach Alpha was used in this study. For the Split-Half Method, the tool was first divided into two halves using the even-odd method. Items with even numbers (2, 4, 6, 8, ...) formed one half, while items with odd numbers (1, 3, 5, ...) formed the other half. After splitting, the correlation coefficient between the two sets of scores was calculated and found to be 0.724. The calculated reliability of Students' Life Skills Awareness Scale through Cronbach Alpha method was found to be 0.865. The reliability coefficients obtained from both methods indicate moderate and fair reliability of the research scale.

Table 3.9 : Reliability of Students' Life Skills Awareness Scale

Title of Research Tool	Method	Reliability Coefficient	N(Sample Size)
Life Skills Awareness Scale	Split – Half method	0.724	200
	Cronbach alpha	0.865	200

3.4.4.10. Validity

Validity refers to the extent to which a scale truly measures what it is designed or intended to measure. It is a crucial aspect of research as it ensures that the results obtained are accurate, meaningful and applicable beyond the study sample. The Students' Life Skills Awareness Scale was given for content validity to the experts for validation and

after considering all the opinions and suggestions from the subject experts, the tool was reframed and made changes according to the recommendations of the experts. Henceforth, selection of items was done through item analysis from the collected data. The Students' Life Skills Awareness Scale for secondary school students demonstrates adequate validity with respect to its items. Only those items that significantly discriminated between two extreme groups of students were retained in the final version of the scale. Specifically, items with a t-value of 2.00 or above were considered highly discriminating and thus included, ensuring the tool's effectiveness in measuring Life Skills awareness among secondary school students.

3.4.4.11. Description of Final Standardized Tool : Students' Life Skills Awareness Scale

A comprehensive account of the finalized version of the Students' Life Skills Awareness Scale is presented below –

3.4.4.12. Student's Life Skills Awareness Scale

It is a self-constructed standardized research tool designed as a five-point Likert-type rating scale, intended to measure the level of Life Skills awareness among secondary school students.

3.4.4.13. Dimension of Life Skills

WHO ten core Life Skills components are totally selected for the study. Each Life Skills components is divided into different dimension as shown in the table below :

Table 3.10 : Dimensions of Life Skills

DIMENSION OF LIFE SKILLS	
THINKING SKILLS	
Critical Thinking Skills	
Problem solving skills	Includes solving problems in our day to day life with colleagues, family and peers.
Analytical and Reflective level	Includes how thinking and writing can enable a person to understand and promote our cognitive and actions.
Dealing with information	Includes dealing with new information in our daily activities.
Creative Thinking Skills	
Learning new skills	Includes the benefit for mental and physical improvement in building confidence and sense of well-being among the students.
Collaboration	Includes learning to work together in groups with friends and colleagues.
Confidence	Includes being confidence oneself in a realistic way.
Problem Solving	Includes dealing with current problematic situation in a manageable way by finding a solution to it.
Problem Solving Skills	
Dedication level	Includes committing to certain situation by giving time and effort.

Dealing with Problem	Includes identifying a potential solution on how to tackle in a specific circumstances
Self – Awareness Skills	
Knowing oneself	Includes identifying our pros and cons in everyday life which will boost our confidence and self-esteem
Controlling emotions	Includes learning to manage emotions in order to accomplish situational goals.
Decision-Making Skills	
Identification of problem	Includes recognizing and finding the context by focusing on the real issues
Filtering of information	Includes coming up with a better solution by analyzing carefully in that specific circumstances before drawing a conclusion.
SOCIAL SKILLS	
Inter-Personal Relationship Skills	
Building a relationship	Includes how building a good relationship with peers, family and society plays a fruitful role in an individuals everyday life.
Sharing emotions	Includes learning to share feelings, emotions happening in our day to day life can give a positive impact in a persons' life.
Effective Communication Skills	
Express feelings	Includes learning to express out our emotional outburst, feelings, despair and happiness with others help us ease our burdens.

Good listener	Includes becoming an active listener in any situation for anyone under any circumstances to elevate oneself.
EMOTIONAL SKILLS	
Coping With Emotions	
Managing emotions	Enabling the student to manage their emotions by learning to forgive and let go of difficult situations
Learning to express	Learning to express themselves through creative outlets in their daily activities.
Coping With Stress	
Managing stress	Emphasizing the importance of managing stress through healthy habits, breaks and quite time
Expressing feelings	Sharing feelings brings relief by allowing individuals to express their emotions, thoughts and concern openly.
Empathy	
Understanding other	Involves empathetically listening to others concern and emotions without judgment.
Helping others	Involves developing the habit of being helpful and kind to those you do not know whether they are struggling with simple tasks or facing more significant challenges.

3.4.4.14. Description of Items

1. Total number of items – Final draft of Life Skills Awareness scale of secondary school students consisted of 43 items related to the dimension of ten life skills components.

2. Skill wise item – Different life skill wise number of items is given below in detail :

Table 3.11 : Skill wise type of items with serial number

Sl. No.	Skills Name	Positive Item Numbers	Negative Item Numbers	No. of Items
1.	Critical thinking skills	1,2,4,5	3	5
2.	Creative thinking skills	7,8,9	6	4
3.	Problem solving skills	11,12,13	10	4
4.	Self-awareness skills	14,15,16,17	18	5
5.	Decision making skills	19,20,21,22	-	4
6.	Interpersonal relationship skills	23,24,25,26	-	4
7.	Effective Communication skills	27,28,29	30	4
8.	Coping with Emotions	31,34	32,33	4
9.	Coping with Stress	35,36,38	37	4
10.	Empathy	39,40,41,43	42	5
	TOTAL	34	9	43

3. Nature of items – The tool consist of both positive and negative items in which there are 34 positive items and 9 negative items. Item numbers of both types of items is given in Table No 4.

Table 3.12 : Nature of Items and its Number

Nature of Items	Item No	Total
Positive	1,2,4,5,7,8,9,11,12,13,14,15,16,17, 19,20,21,22,23,24,25,26,27,28,29, 31,34,35,36,37,38,39,40,41,43	34
Negative	3,6,10,18,30,32,33,37,42	9

Note – Negative items are marked with a star * after each statement.

3.4.4.15. Scoring

The scale consist of five-point Likert Scale with the options like Strongly disagree, Disagree, Undecided, Agree, Strongly agree and the scoring for each item was given like 1,2,3,4 and 5 according to the options given. In case of negative items, the scoring for the above procedures is reversed as shown in the table 5 given below. Given the total of 43 statements, the maximum possible score was ($43 \times 5 = 215$), while the minimum possible score was ($43 \times 1 = 43$). Thus, the total score for this scale differs from 43 to 215 showing lowest to highest life skills respectively. This scoring framework was adopted to reflect the extent of variation in the respondents' answers to the statements.

Table 3.13 : Scoring System

Nature of item	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Positive	1	2	3	4	5
Negative	5	4	3	2	1

3.4.4.16. Reliability

The Life Skills Awareness Scale demonstrated satisfactory internal consistency and reliability. Using the split-half method and Cronbach alpha, the reliability coefficient of the scale was calculated and found to be 0.724 and 0.865.

3.4.4.17. Validity

Content validity was established by seeking expert judgment and by selecting items based on the results of item analysis.

3.4.4.18. Standardization

For standardization of the tool, the Students' Life Skills Awareness scale was administered to 200 students from secondary school students of different schools of Aizawl, Mizoram. In which the sample comprises of both male and female respectively.

3.4.4.19. Statistical Results

Prior to the responses received from the 200 participants, the following statistical results were employed :

Table 3.14 : Statistical Results

N	Mean	SD	Range of Scores
200	329.33	29.552	43 - 215

3.4.4.20. Norms

Norms serve as a foundation for interpreting an individual's score in comparison to the performance of a group. A raw score by itself carries little meaning unless it is evaluated against established norms or standardized procedures. Through the use of norms, raw scores can be understood in the context of a wider distribution, offering a reference point for assessing the performance or behaviour of individuals and groups. They play an important role in identifying patterns, trends, as well as deviations from the average.

Based on the statistical findings reported in Table 3.12, z-score norms were developed, which are presented in Table 3.13. These norms provide a framework for representing the awareness levels of students' life skills and are outlined below :

Table 3.15 : z-score Norms for Students Awareness on Life Skills Scale

Mean = 329.33 SD = 29.552 N = 200

Raw Score	z-score	Raw Score	z-score	Raw Score	z-score	Raw Score	z-score
370	1.37	305	-0.08	331	0.05	301	-0.95
304	-0.85	316	-0.45	331	0.05	299	-1.02
311	-0.62	301	-0.95	367	1.27	327	-0.07
311	-0.62	306	-0.78	368	1.31	362	1.10
302	-0.92	306	-0.78	317	-0.41	384	1.84
304	-0.85	307	-0.75	351	0.73	364	1.17
300	-0.99	300	-0.99	336	0.22	339	0.32
282	-1.60	336	0.22	355	0.86	371	1.41
315	-0.48	305	-0.82	319	-0.34	326	-0.11
311	-0.62	305	-0.82	305	-0.82	369	1.34
314	-0.51	310	-0.65	328	-0.04	338	0.29
324	-.018	350	0.69	337	0.25	365	1.20
325	-0.14	315	-0.48	394	2.18	305	-0.82
366	1.24	301	-0.95	328	-0.04	327	-0.07
393	2.15	323	-0.21	315	-0.48	380	1.71
390	2.05	284	-1.53	324	-0.18	337	0.25
351	0.73	295	-1.16	320	-0.31	335	0.19
326	-0.11	272	-1.93	325	-0.14	380	1.71
297	-1.09	280	-1.66	348	0.63	329	-0.01
324	-0.18	284	-1.53	291	-1.29	321	-0.28
323	-0.21	359	1.003	337	0.25	336	0.22
396	2.25	329	-0.01	360	1.03	360	1.03

350	0.69	303	-0.89	329	-0.01	381	1.74
331	0.05	265	-2.17	357	0.93	338	0.29
337	0.25	308	-0.72	343	0.46	374	1.51
315	-0.48	289	-1.36	349	0.66	365	1.20
333	0.12	294	-1.19	309	-0.68	354	0.83
337	0.25	303	-0.89	311	-0.62	389	2.01
316	-0.45	284	-1.53	311	-0.62	335	0.19
420	3.06	310	-0.65	273	-1.90	318	-0.38
343	0.46	335	0.19	289	-1.36	340	0.36
336	0.22	275	-1.83	321	-0.28	352	0.76
301	-0.95	353	0.80	379	1.68	358	0.97
291	-1.29	321	-0.28	315	-0.48	365	1.20
289	-1.36	293	-1.22	331	0.05	370	1.37
335	0.19	336	0.22	317	-0.41	324	-0.18
310	-0.65	319	-0.34	352	0.76	302	-0.92
296	-1.12	282	-1.60	323	-0.21	330	0.02
327	-0.07	347	0.59	312	-0.58	293	-1.22
396	2.25	356	0.90	340	0.36	355	0.86
391	2.08	260	-2.34	357	0.93	362	1.10
282	-1.60	329	-0.01	340	0.36	320	-0.31
298	-1.06	328	-0.04	318	-0.38	327	-0.07
317	-0.41	323	-0.21	320	-0.31	323	-0.21
340	0.36	379	1.68	365	1.20	312	-0.58
335	0.19	406	2.59	362	1.10	360	1.03
313	-0.55	336	0.22	314	-0.51	308	-0.72
336	0.22	299	-1.02	325	-0.14	337	0.25
307	-0.75	371	1.41	311	-0.62	338	0.29
301	-0.95	324	-0.18	321	-0.28	361	1.07

Using the range of z-scores, Students' Life Skills Awareness Scale was divided into seven distinct levels. For the purpose of this study, these levels were further grouped and consolidated into three broader categories for interpretation, as shown in the following table 3.14.

Table 3.16. Norms for Interpretation of Students' Life Skills Awareness Scale

Sl.no	Range of z-score	Level of Students' Life Skills	Interpretation
1.	+2.01 and above	Extremely good	High
	+1.26 to +2.00	Good	
2.	+0.51 to +1.25	Above average	Average
	-0.50 to +0.50 to	Average	
	-0.51 to -1.25 to	Below average	
3.	-1.26 to -2.00 to	Poor	Low
	-2.01 and below	Extremely poor	

Prior to table 3.14, the scores are classified into high, average and low categories using z-score for the Students' Life Skills Awareness Scale.

3.5. Data Collection Procedure

The qualitative data for the study involved examining the secondary school syllabi of both CBSE and MBSE textbooks; along with the selected textbooks a Semi-Structure Interview schedule was conducted with the Headmasters from each school visited. For both investigation in Textbook Analysis and Interview with the headmasters, Purposive sampling technique was employed.

Quantitative data, on the other hand, were collected through multistage-stratified random sampling technique. The researcher visited secondary schools across five districts representing the north, east, south, and west, with Aizawl as the central district namely

Kolasib, Champhai, Lunglei, Mamit, and Aizawl. In total, twelve schools were visited to gather the required data for the study.

For the **qualitative study**, the researcher selected three subjects from class – IX and class – X syllabus for the current study. The chosen textbook consists of Social Science textbook, Science textbook and Mathematics textbook from both CBSE and MBSE curriculum. For analyzing the textbook, Thematic content analysis is employed in order to develop a systematic and proper identification for the required findings. The researcher followed WHO ten core Life Skills framework as a guiding principle to analyze the textbook. The researcher read each textbook page by page, sentence by sentence, column by column and exercises to identify different Life Skills components embedded within the textbook. After the researcher re-read the selected textbook for the third time, finalization with the figures and numbering identified from each textbook is made. From each textbook, the different Life Skills components are identified at the content section, activity section and question section which are all important sections for the formation of the textbook. From the CBSE Class IX and X textbooks, a total of 3,216 Life Skills items were identified, showing a wide distribution of skills across the content. In comparison, the MBSE textbooks for the same classes revealed 4,229 Life Skills items. These items were drawn from the three selected subjects – Social Science, Science and Mathematics highlighting the presence of Life Skills across different sections of the textbooks chosen for analysis.

For the second component of the **qualitative study**, interviews were carried out with the headmasters of the schools selected for visitation as part of the data collection process. A semi-structured interview schedule was employed, allowing flexibility in responses, while purposive sampling technique was used to select the participants. Prior to visiting the schools in each district, the researcher consulted with the supervisor, discussed the process and obtained formal approval from the university to proceed with the fieldwork. Before entering individual schools, the researcher first approached the District Education Office (DEO) to secure official permission for visiting the different

institutions. With the DEO's approval and suggestions, the data collection was conducted smoothly, without hindrance or disruptions. In total, twelve headmasters from both CBSE and MBSE schools were interviewed with 5 headmasters from the CBSE schools and 7 headmasters from MBSE schools. The researcher made efforts to establish rapport with the participants, creating a comfortable environment to go beyond formality and encourage open dialogue. Through this approach, meaningful information was gathered on how the schools implement and adapted Life Skills education. The discussions provided insights into both commonalities and variations in practices across schools. The light yet purposeful conversations allowed the researcher to gain a deeper understanding of how headmasters perceive and address students' development of Life Skills within their respective institutions.

For the second phase of data collection i.e., **quantitative phase**, the researcher employed stratified random sampling technique for the selection of schools. The same protocol is followed by first taking approval letter from the DEO office from each visited district before going to the school. Thus, the quantitative data is collected from both the teachers and students from each visited schools. For collecting the data, self – made Life Skills' Awareness Scale for the students and teachers' Life Skills assessment scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal was used. Before administering the questionnaire to the students and teachers, a quick briefing was given to them on how they should give response to each item and a short speech about importance of Life Skills in our daily life and their awareness about Life Skills is asked. When administering the questionnaire to the students, students are given information that there is no right or wrong answers to their responses and that their responses are kept confidential and will be use only for research purposes. They were given sufficient time to give genuine answers to each item. While administering the test, utmost care was taken to confirm that each statements are addressed and necessary personal information was provided by the participants. Thus, a total of 1014 responses are collected from the students as a whole from each districts and schools visited.

On the other hand, Teachers' Life Skills Assessment Scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal was utilized to collect the required data from the secondary school teachers towards their perception on Life Skills education. Thus, a total of 83 responses were received while collecting the data from the districts visited.

3.6. Statistical Techniques for Analysis

Taking into account the nature of the data and the objectives of the study, the researcher employed the following statistical techniques for analysis:

3.6.1. Qualitative Data Analysis

To analyze the secondary school syllabi of CBSE and MBSE textbooks, the WHO's Ten Core Life Skills framework was applied. The Life Skills components identified from each textbook were then quantified and interpreted using percentages, rankings and frequency distributions to present the findings clearly. Along with the analysis of the textbook, semi-structure interview schedule with the Headmaster of each secondary school visited was conducted. Both analysis of the data was done by using Braun and Clarke's (2006) thematic analysis approach. The process involved the following stages:

Step 1: Becoming familiar with the data

Step 2: Generating initial codes

Step 3: Identifying potential themes

Step 4: Reviewing and refining themes

Step 5: Defining and labeling themes

Step 6: Producing the report

Following these steps, the relevant qualitative insights were incorporated into the quantitative findings to strengthen the overall results.

3.6.2. Quantitative Data Analysis

1. Descriptive statistics measures : Descriptive statistics such as mean, standard deviation, z-scores, are applied to interpret the data with SPSS, examine score patterns and categorize students and teachers according to the characteristics of their results.

2. Test of significance for mean difference : To understand the significance of difference in mean score among different group categorize by gender, class, locality, board and family, t-test was employed using SPSS.

3. ANOVA : It is a statistical method used to determine whether there are any statistically significant differences between the means of three or more groups. Thus to understand and study the significant difference in mean score of more than two variables among different group categorize as economical status of family, district wise comparison, parental education and previous class grade, ANOVA with post hoc test (Games Howell) was utilized for unequal sample sizes and unequal variances using SPSS.

Thus, the present chapter has outlined the methodological framework adopted for this study. It has provided a detailed account of the population distribution, the construction of tools for gathering both quantitative and qualitative data, as well as the procedures employed for norm establishment. The following chapter will present an in-depth analysis of the quantitative data utilized in the study.

CHAPTER – 4

ANALYSIS OF DATA AND INTERPRETATION OF RESULTS

4.1. Introduction

This chapter presents a systematic and critical analysis of the data collected in line with the objectives of the study. It involves the use of suitable tools and techniques to organize, structure and interpret the data to convert it into meaningful information and draw relevant conclusions. Serving as a vital part of the research, this section enables the researcher to make logical deductions and provide significant insights based on the findings. The importance of the study lies in its ability to use these results to address the core research objectives and highlights their practical value.

For the *qualitative study*, the study aims to focus on analyzing the secondary school textbook of Central Board of School Education (CBSE) and Mizoram Board of School Education (MBSE) and in which three subjects viz., Social Science, Mathematics and Science textbook are selected for undergoing the analysis. The researcher analyze these textbooks systematically by following ten Life Skills components given by World Health Organization (WHO). Furthermore, besides analyzing these textbooks the researcher administer an interview schedule with the headmasters' of the school chosen for the collection of data to find out the activities implemented in the secondary school of Mizoram.

In this chapter, both quantitative and qualitative data are presented, analyzed and interpreted in an orderly manner. For *quantitative study*, the study aims to find out the awareness level of secondary student in Mizoram towards Life Skills education with respect to their gender, district-wise, boards, grade, locality, family, management, economical status of family, parental education and previous grade. Alongside collecting data from the students, the researcher finds the need to further collect it from the secondary school teachers regarding their perception towards Life Skills education with regards to

their district wise, gender, educational qualification, locality, board and management of school.

To analyze the quantitative data, such statistical methods are adopted to find out the result:

- To determine the relationship between gender, class, locality, board and family; t-test, Standard Deviation, Mean are employed to find out whether there is a significant difference with those demographic variables.
- To determine the relationship between management of school, economical status of family, parental education, district wise and previous class grade; one-way ANOVA with post hoc test (Games-Howell) for unequal sample sizes and unequal variances was employed.

In this chapter, the research findings are presented in alignment with the objectives set forth in the first chapter given as follows :

1. To explore the Life Skills components in the secondary school education syllabus.
2. To analyze CBSE syllabus with reference to life skills education.
3. To analyze the MBSE syllabus with reference to life skills education.
4. To compare CBSE and MBSE syllabus with reference to Life Skills components of education.
5. To study the perception of the secondary school teacher on Life Skills education.
6. To study the awareness level of secondary school students towards Life Skills education.
7. To find out the activities implemented in the secondary school of Mizoram.

PART – A (QUALITATIVE STUDY)

4.2. Objective no. 1 : Exploring Life Skills Components in the Secondary School Education Syllabus

The cultivation of Life Skills has long been a cornerstone of the traditional Indian education system with ancient universities renowned for imparting both knowledge and practical wisdom. However, in the modern era, rapid technological progress and societal change have significantly influenced the Indian education system. Challenges such as intense competition, isolation, anxiety, depression and a materialistic lifestyle have also impacted students, leaving many pupils unable to realize their full potential. While aspirations among young learners are high and they increasingly seek quality education that prepares them to excel in diverse fields, the current system often falls short in equipping them with the necessary intra and interpersonal skills to navigate today's complex world. Unfortunately, vital Life Skills such as self-awareness, empathy, decision-making, effective communication, interpersonal relationships, coping with stress and emotions remain inadequately addressed in the secondary school syllabus and this gap needs urgent attention to it.

As we move through the complexities of today's world shaped by fast-paced technological change, globalization and persistent health challenges, the importance of preparing young people with essential life skills has become increasingly evident. The World Health Organization (WHO) defines Life Skills as the abilities that enable individuals to adapt and respond positively, equipping them to handle everyday challenges and demands effectively. UNICEF views Life Skills as an educational approach that promotes behavioral development and change, emphasizing a balance between knowledge, attitudes and practical abilities.

Together, UNICEF, UNESCO and WHO highlight ten core Life Skills like Problem-solving skills, Critical thinking skills, Decision-making skills, Creative thinking skills, Effective communication skills, Interpersonal relationship skills, Self-awareness

skills, Empathy and Coping with Stress and Emotions. Thus, it is essential for education systems to nurture these skills in learners to ensure they are well-prepared for active and meaningful participation in society.

Problem solving skills enable us to deal; overcome obstacles and challenges in our everyday lives efficiently to achieve our desired goals, objective and purpose in a constructive manner. This skills gives answer or solution to a certain problems when a complex situation occurs.

Critical thinking skills help us to analyze information and experiences objectively; evaluate evidence and make informed choices; solving problem in everyday challenges.

Decision making skills enables individuals to approach choices in their lives in a constructive manner. For the adolescent, this skill is particularly important for health as it encourages them to carefully evaluate different options and consider the potential outcomes of their actions before making decisions that may affect their well-being.

Creative thinking skills supports both decision-making and problem-solving by allowing us to explore different possibilities and consider the potential outcomes of our actions or inaction. It encourages us to think beyond our immediate experiences, and even in situations where no clear problem or decision exists, it enables us to respond with adaptability and flexibility to the demands of everyday life.

Effective communication skills is the ability to convey ourselves clearly both through words and non-verbal expressions, in ways that suit our culture and specific situations. It involves sharing opinions, desires, needs and fears openly and includes the capacity to seek guidance or support when needed.

Interpersonal relationship skills enable us to connect positively with the people around us. They involve building and maintaining friendships that contribute greatly to our mental and social well-being, nurturing healthy relationships with family members

who provide essential support and having the ability to bring relationships to a close in a constructive manner when necessary.

Self-awareness involves understanding ourselves our character, strengths and weaknesses, as well as our likes and dislikes. By developing self-awareness, we become better able to recognize when we are stressed or experiencing pressure. It also serves as a foundation for effective communication, building healthy relationships, and fostering empathy towards others.

Empathy is the capacity to put ourselves in another person's place and imagine their experiences, even if they are unfamiliar to us. It enables us to better understand and accept people who may be very different from us, thereby improving social interactions, especially in contexts of cultural or ethnic diversity.

Coping with stress involves identifying the sources of stress in our lives, understanding how they impact us, and taking steps to manage stress levels effectively. This might include reducing stressors by adjusting our environment or lifestyle, or learning relaxation techniques to ease tension, so that unavoidable stress does not lead to health-related problems.

Coping with emotions means being able to identify our own feelings as well as those of others, understanding how these emotions affect behavior, and responding to them in a suitable way. Strong emotions such as anger or sadness can harm our health if they are not managed properly.

To examine the various Life Skill components in secondary school textbooks, the above mentioned skills are employed for analyzing the textbook and they are grouped into three broad dimensions - Thinking skills, Social skills and Emotional skills. Each dimension brings together related skills under a common category. The detailed classification of these dimensions along with the respective skills is given below:

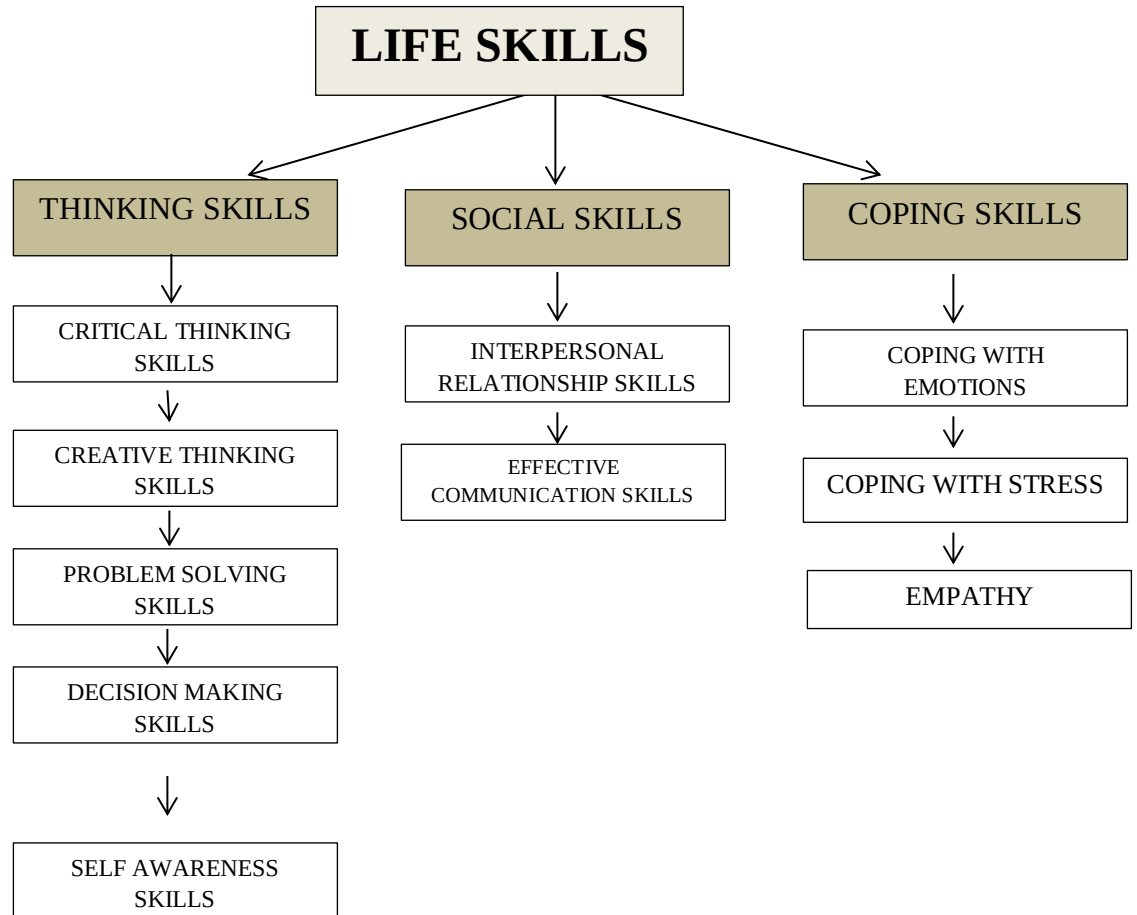


Fig 4.1. Classification Of WHO Life Skills In Different Dimension

4.2.1. Incorporation of Life Skills Components in Secondary School Syllabus of Central Board of School Education (CBSE) textbook

In today's fast-changing world, education must go beyond transmitting knowledge and focus on preparing students for life. This means integrating Life Skills into the curriculum so that learners not only achieve academic success but also develop the personal and social competencies needed to thrive and contribute positively to society. To achieve this, curriculum design must move beyond subject-specific teaching and include meaningful activities such as group projects, debates, community service and real-world experiences like internships or volunteering. These approaches nurture teamwork, communication, empathy and social responsibility alongside intellectual growth.

The CBSE curricula, through its structured approach, has made efforts to integrate Life Skills across subjects, particularly by emphasizing Critical thinking, Problem-solving and Analytical abilities. However, there remains a pressing need to extend this focus further to include emotional, social and ethical competencies, ensuring that students are fully equipped for real-world challenges. Global studies has shown that institutions which actively integrate Life Skills into their curricula experience improved academic achievement, higher engagement, better classroom performance and dropout rates are lower. These outcomes highlight the transformative power of Life Skills education and emphasize why it must be central to the CBSE curriculum framework. Thus, an in-depth analysis of CBSE textbooks for Classes IX and X in Social Science, Mathematics and Science highlights an intentional effort to integrate Life Skills into the curriculum. However, the degree of effectiveness and balance of skills varies noticeably across subjects. Thus, the analysis of CBSE Class IX and X textbooks across Social Science, Mathematics and Science shows that these textbooks are not just designed to deliver subject knowledge but also to develop a wide range of Life Skills among students. Together, the data reflects the central aim of these textbooks to strengthen students' academic foundation while simultaneously nurturing essential skills needed for real-life application.

Table 4.1. Overall Comparative Analysis of the CBSE textbooks

Aspects	Social Science	Mathematics	Science
Overall Breadth	Include all WHO ten core Life Skills	Poor and focuses only on three to four skills	Moderate and include most skills.
Dominant Skill	Critical thinking skills	Problem – solving skills	Critical thinking skills
Biggest Gap	Lack of activity – based learning	Near-total absence of Social & Coping skills.	Lack of Social skills and Coping skills
NEP 2020 alignment	Good in critical thinking but lack experiential activity.	Fails in the holistic development.	Thinking skills is emphasized but lacks depths in Social skills and Coping skills.

Prior to table 4.1, **CBSE Social Science** textbooks for Classes IX and X present the most comprehensive integration of Life Skills among the core subjects, incorporating all ten WHO-recommended components. The Class IX book provides a strong foundation by promoting critical thinking through analysis of historical, geographical and civic concepts, while also embedding social and emotional skills such as empathy and coping with emotions within its narrative and case study approach. However, its activity component remains underdeveloped, limiting opportunities for experiential learning. The Class X textbook demonstrates continuity and progression, with a greater volume and complexity of content and questions that foster advanced reasoning and evaluative judgment. Critical thinking emerges as the dominant skill across both grades, reflecting a deliberate curricular focus. But, a consistent shortfall is evident in the activity sections of both books, which fail to evolve into meaningful heuristic and interactive exercises. This

imbalance highlights a tension between theoretical inclusion of Life Skills and their practical application. Overall, while Social Science aligns strongly with NEP 2020's emphasis on critical and analytical thinking, its limited scope for activity-based pedagogy constrains its potential to fully realize the policy's vision of experiential, student-centered learning.

CBSE Mathematics textbooks of Classes 9 and 10 reflect a narrow and highly imbalanced approach to Life Skills prior to table 4.1. Both are dominated by thinking skills dimensions especially with problem-solving, but only limited traces of critical and creative thinking. While analytical reasoning is central to mathematics, this emphasis is taken to an extreme, leaving little space for broader developmental goals. In Class 9, the textbook already leans heavily on procedural and analytical thinking, while Social and Coping Skills receive minimal attention. The activity section is almost barren, offering no opportunities for collaboration, discussion or practical application of concepts. This utilization of activities marks a significant missed opportunity. In Class 10 textbook the imbalance deepens and the focus narrows almost exclusively to problem-solving, while essential skills such as decision-making, communication, interpersonal relationships, empathy and coping with stress disappear altogether. Instead of progressing towards a well-rounded framework, the curriculum regresses further, neglecting the social and emotional growth of learners. The absence of Social and Coping Skills is the most striking gap. With no scope for teamwork or real-life application, the curriculum reduces mathematics to procedural efficiency alone. This stands in sharp contrast to NEP 2020's vision of multidisciplinary, experiential and holistic learning.

CBSE Science textbooks offer a moderate breadth in Life Skills integration, striking a middle ground compared to Mathematics prior to table 4.1. All ten WHO-recommended Life Skills are technically present, but the emphasis is overwhelmingly on thinking skills. In Class 9, critical thinking skills are dominated by inquiry-based tasks, analysis of scientific processes and evaluation of claims. Problem-solving is also well-represented, though secondary. In Class 10 textbook, problem-solving becomes much

more prominent, reflecting the syllabus' stronger focus on application and numerical exercises. Together, these two skills form the backbone of the Science curriculum. However, the inclusion of Social Skills and Coping Skills is minimal and not meaningfully integrated. Although listed, they are less embedded in meaningful classroom practice. Activities that could develop teamwork, effective communication, ethical deliberation or emotional resilience are scarce. This lack of socio-emotional integration undermines the potential of Science to engage with broader human and environmental contexts such as empathy in health issues, collaboration in experiments or ethical reflection on technology's impact. As a result, while Science textbooks succeed in cultivating scientific temper and align with NEP 2020's cognitive aims they fall short of promoting holistic growth. The persistent imbalance between cognitive and socio-emotional skills represents a significant missed opportunity.

Table 4.2. Life Skills Dimension wise Distribution in CBSE Class IX and X Textbooks

Grade	Thinking Skills	Social Skills	Emotional Skills
Class – IX	Highly emphasized all subjects	Minimal to absent, rarely appearing outside Social Science textbook.	Largely missing, with minimal presence only in Social Science.
Class – X	Increased emphasized on problem solving skills with primary focus on Mathematics textbook.	Marginal in Social Science but is still mostly missing in other subjects.	More evident in Social Science textbook but continues to be neglected in other textbook.

Table 4.2 gives a structured picture of how Life Skills are distributed across CBSE Class IX and X textbooks. It becomes clear that there is a deep ingrained imbalance as the

curriculum gives overwhelming importance to cognitive development, while social and emotional learning is pushed to the margins. This pattern reflects a narrow vision of education where intellectual growth is prioritized above all else, leaving other equally important aspects of human development underexplored.

Prior to table 4.2, the strongest emphasis is placed on Thinking Skills in both grades. In Class IX, these skills already dominate and by Class X the focus becomes even sharper, especially in Mathematics where problem-solving is treated as the central goal. This reflects a long-standing educational philosophy in India that equates learning with sharpening reasoning, logic and analytical ability. Even though such skills are important, the attention they receive shows a true picture that there is a limited understanding of education as intellectual training rather than as a balanced process of nurturing multiple dimensions of human growth.

Prior to table 4.2, Social and Emotional Skills are almost invisible and the descriptors in the table clearly highlight their consistent exclusion. Social Science emerges as the only subject that attempts to include these skills in a somewhat meaningful way, though its effort remains limited. This places an unfair burden on one discipline to address areas like communication, empathy and self-awareness, while other subjects avoid them completely in the textbook. The absence in Mathematics and Science represents a missed opportunity since these subjects could naturally foster collaboration through experiments, resilience through problem-solving struggles and ethical awareness through scientific issues. Thus, the two grades shows not improvement but further narrowing of focus. Social Science does show a slight increase in attention to Life Skills, but this is outweighed by Mathematics intensifying its focus on problem-solving in Class X. As academic pressure rises in higher classes, the system seems to double down on exam-oriented skills, moving even further away from social-emotional or holistic learning. This progression suggests a curriculum designed primarily for examination success rather than preparing students with balanced, life-ready competencies.

Thus, this table 4.2 highlights a critical misalignment between the current curriculum and the holistic, multidisciplinary vision of education championed by the National Education Policy (NEP) 2020. While the textbooks are effective tools for cultivating thinkers and problem-solvers, they are inadequate for nurturing well-rounded, empathetic, collaborative and emotionally resilient individuals. The analysis calls for a fundamental pedagogical shift to integrate social and emotional learning deeply and equally across all subjects, ensuring that education fulfills its role in developing the complete child.

4.2.2. Incorporation of Life Skills Components in Secondary School Syllabus of Mizoram Board of School Education (MBSE) Textbook

Incorporating Life Skills into the curriculum is an important step toward shaping and enriching learners' overall outlook on life in a more meaningful way. Integrating different dimensions of Life Skills equips students to handle both academic and real-life challenges, thereby promoting holistic development of the body, mind and spirit. However, Life Skills cannot remain limited to written texts or theoretical teaching; they must be demonstrated, practiced and lived in daily life to be truly effective. Moreover, the growth and progress of a nation greatly depend on the quality of education; how it is delivered to learners and how well cognitive, social and emotional life skills are embedded in the syllabus to support their all-round development. Thus, designing a Life Skills programme in a way that allows it to be infused across different subjects or introduced as a separate subject or within an existing one, provides a stronger opportunity for the programme to be successful.

Mizoram Board of School Education (MBSE) gives a comprehensive textbook for the secondary school students to meet the academic needs of the learner widely. This textbook present well-organized content and learner-appropriate topics, thoughtfully designed to integrate various Life Skills components in line with NEP 2020. They aim to provide rich and meaningful learning experiences that promote holistic development, enhance essential skills and strengthen cognitive abilities. By doing so, they help students

connect Life Skills not only with their academic learning but also with practical applications at home, in school, within society and in everyday life. MBSE textbooks place a strong emphasis on Thinking Skills across the selected subjects like Social Science, Science and Mathematics. While these textbooks incorporate a broad spectrum of WHO-recommended Life Skills applied in contextually appropriate situations, certain skills appear less prominent, with limited significance and influence in the overall content. Therefore, it becomes important to closely examine and explore how different Life Skills components are integrated within the secondary school textbooks of the Mizoram Board of School Education (MBSE).

Analysis of MBSE covers six textbook (Class IX and X for Social Science, Mathematics and Science) against WHO ten core Life Skills. The key to overarching finding is a significant and consistent imbalance in Life Skills integration across all subjects and grades. There is an overwhelming emphasis on cognitive/thinking skills (especially Critical Thinking and Problem Solving) but social and emotional/coping skills are lack and less significant. While the total number of identified Life Skills items is high in the textbook, their distribution is skewed towards specific skills, revealing a pedagogical preference for theoretical and analytical learning over experiential, social and emotional development. This misalignment is most pronounced in Mathematics textbooks and is a point of concern in relation to the holistic goals of NEP 2020.

Table 4.3. Overall Comparative Analysis of the textbook

Aspects	Social Science	Mathematics	Science
Overall Breadth	Include all WHO ten core life skills	Poor and focuses only on three to four skills	Moderate and include most skills.
Dominant Skill	Critical thinking skills	Problem – solving skills	Critical thinking skills
Biggest Gap	Lack of activity – based learning	Near-total absence of Social & Coping skills.	Lack of Social skills and Coping skills
NEP 2020 alignment	Good in critical thinking but lack experiential activity.	Fails in the holistic development.	Thinking skills is emphasized but lacks depths in Social skills and Coping skills.

MBSE Social Science textbook in class – IX and class – X is clearly shown while exploring the different Life Skills components in the textbook the Social Science textbooks are the most comprehensive in their scope, being the only ones to include all ten WHO Life Skills in the textbook.

Table 4.3 clearly demonstrate the most balanced inclusion of the ten core Life Skills, which is natural given the subject's focus on human societies, history and governance. Class IX Social Science textbook comes with 528 identified Life Skills items which shows a strong integration of Life Skills into the textbook with 271 Life Skills items derived from the content. This integration allows students to engage with themes of empathy, stress and critical thinking within the context of historical and social events. However, the textbook relies heavily on the questions section in which 239 Life Skills items are given which suggest a tendency towards assessing skills rather than fostering

their internalization. The activities section is severely underutilized, with only 18 Life Skills items identified indicating a missed opportunity for experiential learning through role-playing, simulations and collaborative projects. Critical thinking skills is overemphasized in this textbook but skills like decision-making, self-awareness and effective communication are notably underrepresented, highlighting a gap in helping students reflect on personal and social choices.

Class X Social Science textbook follows similar pattern with even stronger emphasis on critical thinking skills, which constitutes of 681 Life Skills items identified. The content section remains robust with 351 items but the activities section remains weak with only 12 items. In this textbook, Critical thinking skills is dominant with a larger number but other skills are underrepresented, especially the Social skills and Emotional skills. This indicates that although these underrepresented skills appear less often, their presence carries significant weight, highlighting the advantages of incorporating them more deliberately and consistently. In general, the Social Science textbooks present content related to Life Skills but do not sufficiently create pedagogical spaces for learners to actively engage, practice and internalize these skills.

MBSE Mathematics textbooks present a strikingly different approach, focusing almost exclusively on cognitive skills as shown in table 4.3. The Class IX textbook identifies 844 Life Skills instances, with problem-solving skills dominating at 708 instances. Critical thinking appears 106 times and creative thinking 30 times, while the other seven core Life Skills components are completely absent.

This pattern intensifies in the Class X textbook, where problem-solving accounts for 946 items out of 1017 total instances. The almost complete lack of social and emotional skills reveals a limited view of mathematics education, one that focuses mainly on computational ability rather than fostering holistic growth. The activity sections in both mathematics textbooks are especially weak, containing only 2 and 10 activities respectively, and thus do not make effective use of mathematics as a tool for collaborative learning or practical, real-world application.

MBSE Science textbooks occupy a middle ground between these extremes. MBSE Class IX science textbook contains 604 Life Skills instances, with strong emphasis on critical thinking (344 instances) and problem-solving (219 instances). Although a wider range of skills is represented compared to mathematics, many are included only superficially for example, coping with stress appears 7 times, empathy just 3 times, and decision-making only once.

Prior to table 4.3, Class X science textbook shows a consistent pattern emerges across the analysis, with Critical Thinking standing out as the most dominant skill, accounting for 356 Life Skills items. Problem Solving with 115 instances and Creative Thinking with 57 are also represented but to a much lesser extent. In contrast, the inclusion of other skills appears minimal and superficial, as seen in the limited instances of Coping with Stress 14 items, Empathy 4 items and Coping with Emotions 3 items. The consistent underrepresentation of social and emotional skills across both science textbooks suggests a missed opportunity to connect scientific learning with personal and social development.

Table 4.4. Life Skills Dimension wise Distribution in MBSE Class IX and X Textbooks

Grade	Thinking Skills	Social Skills	Emotional Skills
Class – IX	Highly emphasized across all books.	Minimal to absent except in Social Science textbook	Largely missing with limited presence only in Social Science textbook.
Class – X	Same as IX, with even higher skew in Maths textbook.	Somewhat more visible in Social Science textbook but missing in other subjects.	More evident in Social Science textbook but lacking in other areas.

There is a clear imbalance in the integration of Life Skills within the MBSE Class IX and Class X textbooks given at table 4.4 above. A closer examination reveals that Thinking skills dominate the content across all three subjects i.e., Mathematics, Science and Social Science while social skills and coping skills remain underrepresented or nearly absent. This imbalance highlights a narrow approach to skill development, with the emphasis leaning heavily toward cognitive competencies rather than a more balanced and holistic framework.

Table 4.4 clearly shows that in MBSE Class IX textbook, Thinking skills are strongly emphasized across all the textbooks, suggesting that the curriculum is structured to promote critical thinking, logical reasoning and problem-solving. These skills are woven into the content and the accompanying questions, which provide students with opportunities to engage with academic tasks that demand analytical engagement. However, while the focus on thinking skills is undoubtedly important for intellectual development, the neglect of other domains creates a gap in preparing students for challenges beyond academics. Social skills, such as communication, cooperation and interpersonal relationship-building are largely absent across the subjects, with only Social Science textbook offering limited representation. Similarly, Coping skills particularly coping with stress and coping with emotions are barely features in the curriculum. Their occasional appearance in Social Science indicates an acknowledgment of their relevance, yet the instances are too sparse to have a meaningful impact on students' ability to manage emotions or adapt to stress in real-life situations.

In Class X, the trend observed in Class IX becomes even more pronounced, particularly in Mathematics where the emphasis on thinking skills increases further, creating a sharp skew in skill distribution. The curriculum continues to reinforce critical and analytical thinking but does so at the expense of social and emotional development. Social Science textbook shows slightly better inclusion of Social and Coping skills compared to other subjects, but the improvement is marginal and fails to provide students with substantial opportunities for growth in these areas. Coping skills such as managing

stress and developing resilience are essential during adolescence, a period marked by academic pressure and emotional changes but their absence indicates a missed opportunity to equip learners with tools necessary for well-being. Similarly, Social skills that could help students navigate peer relationships, work collaboratively and communicate effectively are not given the attention they deserve.

Across both grades i.e., class – IX and class – X, the textbooks tend to confine Life Skills to the level of content and textbook questions rather than embedding them into activities. This approach limits the pedagogical potential of Life Skills education. While students may read about or respond to questions that indirectly touch upon certain skills, they are not provided with interactive, experiential opportunities that enable them to practice and internalize these competencies. Activities such as role-plays, group projects, case studies or reflective exercises methods known to strengthen Social and Coping skills are notably absent or underutilized. The lack of activity-based learning reduces the effectiveness of Life Skills integration, resulting in a passive rather than participatory learning experience.

4.2.3. Conclusion

The comprehensive analysis of CBSE and MBSE secondary school textbooks reveals a significant imbalance in the integration of Life Skills across subjects and grades. While both curricula acknowledge the importance of equipping students with essential Life Skills, the practical incorporation remains limited and uneven. Thinking skills, particularly critical thinking and problem-solving, are given overwhelming emphasis across all subjects most notably in Mathematics and Science whereas Social and Emotional skills such as empathy, communication, interpersonal relationships, self-awareness and coping with stress or emotions receive minimal attention. Social Science textbooks stand out as the most balanced, incorporating nearly all ten WHO-recommended Life Skills within their narratives and exercises. Through historical, geographical and civic contexts, they promote critical thinking, empathy and awareness of social issues. However, the lack of experiential and activity-based learning methods such as group work,

role play and community projects reduces the effectiveness of this integration. Science textbooks occupy a middle ground, fostering inquiry, reasoning and application but failing to meaningfully connect scientific understanding with ethical reasoning, emotional resilience or teamwork. Mathematics, however, remains narrowly focused on procedural learning and cognitive rigor, neglecting opportunities to nurture collaboration, decision-making or stress management skills equally vital for personal and academic success.

In both CBSE and MBSE frameworks, the dominance of cognitive development reveals an examination-oriented approach that prioritizes intellectual outcomes over holistic learner growth. The lack of balance between Thinking, Social and Emotional domains results in a fragmented educational experience that does not fully prepare students for the complexities of modern life. While NEP 2020 envisions an education system rooted in experiential, competency-based and value-oriented learning, the current textbook design and pedagogy still fall short of realizing that vision. Therefore, a paradigm shift is needed from knowledge transmission to life-oriented education. Life Skills must not only be mentioned in content or assessment but must be lived and practiced through interactive and participatory approaches. Embedding activities such as peer learning, reflective exercises, real-life problem-solving and community engagement across subjects can make learning more relevant and transformative. Strengthening teacher training and curriculum design to include these practices will ensure that Thinking, Social and Emotional domains are equally nurtured.

While the foundations for life skills education exist within CBSE and MBSE textbooks, meaningful implementation remains limited. Bridging this gap is essential to develop emotionally intelligent, socially responsible and resilient learners aligning education with NEP 2020's holistic vision of preparing students not just for exams, but for life itself.

4.2.4. Challenges in Implementing Life Skills Components in Textbook

The challenges and difficulties identified during the textbook analysis clearly reveal that both CBSE and MBSE textbooks show notable strengths in their content, yet also face evident limitations. Several challenges emerged in the process of reviewing how Life Skills are implemented within the textbooks, which are outlined below :

1.Extreme Imbalance and Subject-Based Bias: The way that Life Skills are incorporated into different topics is seriously unbalanced. Both boards' mathematics texts largely ignore Social and Emotional abilities in favor of problem-solving 81.74% in CBSE X Maths and 93.01% in MBSE X Maths (percentage table can be seen in table 4.8 and table 4.10). The only discipline that makes an effort to incorporate all ten abilities, albeit unevenly is social science, whereas science texts strongly emphasize critical thinking. Instead of having a constant objective throughout the curriculum, this leads to a fragmented educational experience where a student's holistic development depends on the subject they are learning.

2. Minimal presence of Social and Emotional skills (SELs’): Skills like effective communication, interpersonal relationships, empathy, coping with emotions, coping with stress and self-awareness are consistently mostly underrepresented or entirely absent, especially in Mathematics and Science textbook. Their inclusion is often tokenistic (e.g., 1-2 items in a entire textbook). This neglect directly contradicts the core principles of NEP 2020 and WHO guidelines, leaving students ill-equipped to handle social interactions, emotional challenges and real-world ethical dilemmas.

3. Underutilization of the Activity Section: The Activity section is consistently the weakest component across all subjects and in both boards. It is often barren e.g., 1 item in CBSE IX Maths, 10 items in CBSE X Maths or contains activities that do not effectively promote experiential, collaborative or skill-based learning. This represents a massive missed opportunity for hands-on experience, heuristic learning where Social and Emotional skills are most naturally practiced and developed.

4. Over-reliance on the Question Section for Cognitive Skills: Even though the Question section is usually the richest in terms of item count, it is overwhelmingly skewed towards assessing Thinking skills (critical thinking, problem-solving) through traditional, often abstract exercises. It fails to include questions that prompt reflection, empathy or discussion of real-life scenarios. Learning remains largely theoretical and exam-oriented, failing to transition skill development from knowledge to practical competency.

5. Lack of Real-World Context and Application: Especially in Mathematics subject, problems are often abstract and procedural. There is a significant lack of word problems or projects that connect concepts to real-life situations requiring social, emotional, or ethical reasoning. Students fail to see the relevance of what they are learning to their daily lives, reducing motivation and the practical application of skills.

6. Misalignment with NEP 2020's Holistic Vision: The textbooks' narrow focus on Cognitive skills demonstrates a fundamental misalignment with NEP 2020's mandate for a holistic, multidisciplinary education that integrates socio-emotional learning (SEL) as a core component. The education system continues to prioritize academic and procedural learning over the development of well-rounded, empathetic and resilient individuals.

Thus, exploring Life Skills components in the secondary school syllabus reveals a growing recognition of their importance for holistic education. While MBSE leans towards analytical and cognitive competencies, CBSE frameworks integrate a wider spectrum of Emotional and Social skills. Together, they highlight the need for a balanced, well-rounded education that equips students not only with academic knowledge but also with the skills to think critically, act responsibly and live meaningfully in a complex world.

4.3. Objective no. 2 : Analyzing Central Board of School Education (CBSE) Syllabus with Reference to WHO Life Skills Components

For the analysis of secondary school textbooks prescribed by the CBSE board, the researcher utilized the ten core Life Skills components recommended by the World Health Organization (WHO). The CBSE textbook was systematically examined to identify the intended outcomes related to Life Skills. A detailed account of the analysis, highlighting the presence and exploration of different Life Skill components within the textbook is presented in tables given below which comprehensively display all the relevant findings and data in an organized manner.

4.3.1. Analysis of CBSE Class – IX Social Science Textbook

Table 4.5.WHO Life Skills Component-Wise Distribution in CBSE Class – IX Social Science Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	123	46	165	334
	Creative thinking skills	20	30	26	76
	Problem solving skills	35	14	8	57
	Decision making skills	16	1	3	20
	Self-Awareness skills	8	5	0	13
Social Skills	Inter-personal relationship skills	16	2	0	18

	Effective Communication skills	7	5	3	15
Coping Skills	Coping with Emotions	34	0	0	34
	Coping with Stress	56	0	0	56
	Empathy	46	2	0	48
Total		361	105	205	671

Analysis & Interpretation

From table 4.5, it shows that CBSE Class IX Social Science textbook combines both theoretical knowledge and activity-based learning, incorporating all the essential Life Skills components throughout its content. It features interactive and engaging activities that support students in better understanding the topics covered. The material is thoughtfully designed to match the learners' age, mental ability and learning pace. A total of 671 Life Skills items has been identified in the textbook, representing all key skills comprehensively. This reflects the careful and detailed work of curriculum planners who have ensured that each skill is purposefully included based on the relevance and context of the chapter. The textbook demonstrates a strong emphasis on skill development, with each component strategically embedded to enhance student learning. It provides a well-rounded approach to education by integrating academic knowledge with practical skills, ensuring that students not only gain information but also develop the competencies needed for real-life situations.

In CBSE Class IX Social Science textbook, a total of 361 Life Skills items has been identified under the Content section, which is considered satisfactory. This indicates that the textbook offers rich and diverse information that contributes significantly to the learner's overall holistic development. The wide range of embedded content ensures that students gain substantial knowledge across various themes, enhancing their Thinking,

Social and Emotional skills in a well-rounded manner through structured and meaningful learning experiences.

Prior to table 4.5, a total of 105 Life Skills items has been identified in the Activity section of the CBSE Class IX Social Science textbook, which is a considerable number. This highlights that the textbook provides a well-rounded presentation of various topics, encouraging an interactive and engaging learning environment. If teachers effectively implement the suggested activities for practical use, classroom teaching can become more dynamic, enjoyable and meaningful, promoting active student participation and deeper understanding of the subject matter.

In the Question section of the CBSE Class IX Social Science textbook, a total of 205 Life Skills items has been identified, which is comparable to other sections. However, despite the relatively high number of items, some important skills are still missing from this section. This indicates that while the section contributes significantly to skill development, it does not fully meet expectations in terms of covering all essential Life Skills, suggesting the need for a more balanced and inclusive approach in future revisions.

Table 4.6. Overall Analysis of CBSE Class – IX Social Science Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	334	1	49.77%	2.77	85.54%
	Creative thinking skills	76	2	11.33%	0.09	0.09%
	Problem solving skills	57	3	8.49%	-0.11	-0.12%
	Decision making skills	20	7	2.98%	-0.48	-2.66%
	Self-Awareness skills	13	10	1.94%	-0.56	-3.51%
Social Skills	Inter-personal relationship skills	18	8	2.68%	-0.51	-2.89%
	Effective Communication skills	15	9	2.23%	-0.54	-3.25%
Coping Skills	Coping with Emotions	34	6	5.06%	-0.34	-1.32%
	Coping with Stress	56	4	8.34%	-0.11	-0.14%
	Empathy	48	5	7.15%	-0.19	-0.43%
Total		671		100%		100%

Analysis & Interpretation

NCERT Class IX Social Science textbook is both informative and engaging, offering essential content that supports the overall cognitive development of learners. It is divided into four key disciplines such as Geography, History, Political Science and Economics each containing chapters that play a vital role in nurturing students' mental,

social and emotional growth. The textbook provides meaningful learning experiences through the use of well-chosen examples, visuals, tables and clear explanations, allowing students to grasp concepts more effectively. Importantly, the textbook reflects a broad and inclusive curriculum approach, as it successfully integrates all the core Life Skills during analysis, indicating the thoughtful and comprehensive planning by curriculum designers. However, despite its strengths, the textbook does have certain limitations. Some chapters fall short in terms of depth, offering only illustrative content like examples, dialogues or creative visuals without thorough explanations. While such displays enhance engagement, they may not suffice for students who require detailed descriptions to fully understand complex ideas. Additionally, the exercises and questions at the end of certain chapters are sometimes lacking in depth and quality. This can limit meaningful learning as education thrives when students are encouraged to think critically and express themselves actively rather than remain passive recipients of information. Strengthening these areas would greatly enhance the textbook's educational value and effectiveness.

Table 4.6 shows that Critical Thinking is the most dominant Life Skill, with 334 items identified an essential component for learners in their late adolescent years. This high presence highlights the textbook's strong focus on developing analytical abilities. Furthermore, a calculated variance of 85.54% indicates a significant influence, demonstrating the textbook's effectiveness in promoting critical thinking and its relevance to students' cognitive development. Critical thinking skills statements extracted from the textbook are given as an example, "Why didn't someone start a computer centre earlier? Discuss the possible reasons". This statements are taken from Economic textbook, under Let's Discuss section, page number 12.

Creative Thinking Skills rank second, with 76 items identified in the textbook. Although this number is relatively small, the skill holds considerable importance in equipping learners to navigate and adapt to the broader world. According to the variance data, only 0.09% is attributed to this skill, indicating that its overall influence on shaping the textbook content is limited. However, this low percentage does not imply a complete

lack of impact. Creative thinking still contributes meaningfully to the learning process, even if its representation within the textbook is not as prominent as other skills like critical thinking. Creative thinking skills statements extracted from the textbook are given as an example, “What is your idea about future colleges and universities?”. This statements are taken from Economic textbook, under Let’s Discuss section, page number 23.

Problem Solving Skills rank third, with 57 items identified in the textbook. Although this number is not particularly high, the textbook still presents itself as a well-rounded and comprehensive resource, incorporating various life skills across different chapters in a thoughtful and effective manner. Problem solving is a vital skill, essential for helping learners build mental resilience and the ability to tackle challenging situations. However, the variance column shows a value of -0.12%, suggesting a slight negative impact in terms of its influence on the overall content. This indicates that while the skill is present, its role in shaping or enhancing the textbook’s content is relatively minimal and limited in effect. Problem solving skills statements extracted from the textbook are given as an example, “But what has democracy got to do with it? Do we have poverty because we are democratic or do we have poverty despite being a democracy?”. This statements are taken from Democratic Politics – I textbook, under Debating merits od democracy section, page number 9.

Coping with Stress ranks fourth, with 56 items identified in the textbook. This indicates that the textbook does place some emphasis on developing coping skills, which are essential for supporting learners in becoming resilient and well-rounded individuals. However, the variance data shows a percentage of -0.14%, suggesting that this skill has limited influence on the overall content and structure of the textbook. While its impact may be minimal, it is not entirely absent. Coping with Stress plays a role, albeit a minor one, in contributing to the emotional development of students and shaping aspects of the learning experience. Coping with stress skills statements extracted from the textbook are given as an example, “When a family has to live on a bare subsistence level there is a

general decline in its health status and rising withdrawal from the school system”. This statements are taken from Economic textbook, page number 25.

Empathy follows next, with 48 items identified across various chapters of the textbook. Although the number is relatively low, its presence indicates that the curriculum developers did consider the importance of this skill while designing the chapters and overall content. The variance value of -0.43% suggests that Empathy has a limited influence on the textbook's structure and content. However, this does not imply a complete absence of impact. Empathy still plays a subtle yet meaningful role in shaping students' emotional understanding and interpersonal awareness throughout the learning process. Empathy skills statements extracted from the textbook are given as an example, “Poor nutrition can lead to deficiency and stunted growth. But in India, the diet available to adolescents is inadequate in all nutrients. A large number of adolescent girls suffer from anaemia”. This statements are taken from Geography textbook, page number 53.

Coping with Emotions comes next, with 34 items identified in the textbook, indicating that this coping skill was thoughtfully included by curriculum experts during the textbook's development. Such skills are vital for shaping young learners into emotionally balanced and well-adjusted individuals. However, the variance value of -1.32% reflects a notably low impact, suggesting that this skill has minimal influence on the overall content. Despite its limited representation, its inclusion still highlights the curriculum's effort to address emotional development, even if the emphasis is not as strong as other skills. Coping with emotion skills statements extracted from the textbook are given as an example, “Women who bore radically undesirable children were punished and those who produced radically desirable children were awarded”. This statements are taken from History textbook, page number 68.

Decision Making Skill appears next, with 20 items identified from the textbook. Although it is a crucial skill that should be integrated across various chapters, its presence is relatively limited. The variance value of -2.66% clearly indicates that this skill has minimal influence on the overall content of the textbook. Despite its importance, the low

representation suggests that greater emphasis is needed to strengthen its role within the curriculum. Decision making skills statements extracted from the textbook are given as an example, “Ask your sister or your classmate what she would like to take up as a career?”. This statements are taken from Economic textbook, page number 20.

Interpersonal Relationship skills follow, with only 18 items identified in the textbook. Despite its importance in shaping learners’ social development and communication abilities, its representation remains quite limited. The variance value of -2.89% further indicates that this skill has little impact on the overall content and structure of the textbook. While its presence is acknowledged, the low number of items suggests that its influence is minimal, highlighting the need for greater inclusion of this essential life skill in future curriculum planning. Interpersonal relationship skills statements extracted from the textbook are given as an example, “They had to set up a relationship with farmers on the way, so that the herds could graze in harvested fields and manure the soil”. This statements are taken from History textbook, page number 102.

Effective Communication skills follow 15 items identified from the textbook which is a bit less in comparison to other skills. This skill plays a crucial role in building a positive influence among the learners. From variance column, -3.25% is given which clearly shows that this skill has less impact upon the textbook and the number of items expressed for each skill is not uniform while other skills are expressed and emphasized by giving a huge number. Effective communication skills statements extracted from the textbook are given as an example, “Isn’t is obvious that democracy is the best? Do we need to debate this?”. This statements are taken from Democratic Politics-I textbook, page number 9.

Self-Awareness Skills rank the lowest, with only 13 items identified in the textbook. Although this number is quite limited, the skill itself is highly important and deserves greater attention within educational content. The variance value of -3.51% clearly indicates that Self-Awareness has minimal influence on the textbook’s overall content and impact. Despite its essential role in personal development, the low

representation suggests that more emphasis is needed to strengthen its presence in future textbook revisions and curriculum design. Self-awareness skills statements extracted from the textbook are given as an example, “Have you observed the type of trees, bushes, grasses and birds in the fields and parks in and around your school? Are they similar or there are variations?”. This statements are taken from Geography textbook, page number 39.

4.3.2 Conclusion

CBSE Class IX Social Science textbook stands out as a well-balanced blend of theoretical and practical learning, effectively serving the cognitive and emotional needs of adolescent learners. With its four-part structure like Geography, History, Political Science and Economics the textbook covers a broad spectrum of knowledge areas that are critical for shaping informed, responsible and socially conscious individuals. Its age-appropriate content, integration of visual aids, interactive activities and structured exercises all work cohesively to support a learner-centered pedagogy. This reflects a clear alignment with modern educational practices that prioritize not just knowledge acquisition but also the development of real-world skills essential for lifelong learning.

A total of 671 Life Skills items has been identified in the textbook, demonstrating a commendable attempt to embed WHO’s ten core Life Skills components within the school curriculum. The curriculum planners have shown thoughtfulness in aligning the textbook content with essential life competencies, enabling students to better understand and apply concepts across real-life scenarios. The distribution of these skills across the Content, Activity and Question sections ensures that learners are consistently exposed to different skill sets, making the learning experience more dynamic and holistic. This thoughtful incorporation of skill-based learning encourages critical engagement, creativity, emotional awareness and social interaction among students.

Despite its strengths, the textbook also presents certain limitations. While Critical Thinking receives substantial emphasis evident from its dominant presence and high

contribution to variance several other essential Life Skills like Self-Awareness, Interpersonal Relationships and Communication receive considerably less attention. This uneven distribution of Life Skills potentially limits the holistic growth of learners, as certain competencies are underrepresented. Some chapters rely heavily on visuals and examples without providing in-depth textual explanations, which may hinder deeper comprehension for students who require more elaborate narratives. Furthermore, the quality of questions and exercises at the end of some chapters is inconsistent, with a few lacking the depth necessary to stimulate reflective and analytical thinking.

From the perspective of India's National Education Policy (NEP) 2020, the integration of Life Skills into the curriculum is a key priority. NEP 2020 emphasizes, "Foundational literacy and numeracy," "21st-century skills" and the holistic development of learners through a flexible and multidisciplinary approach. The skills identified in this textbook align well with these policy directives. For instance, Critical Thinking which is the most prominently featured skill, directly corresponds to NEP 2020's objective of promoting inquiry-based, discovery-oriented, and learner-centric education. By encouraging students to analyze historical events, evaluate geographical patterns and interpret socio-economic data, the textbook fosters a deep engagement with the material exactly what NEP envisions for 21st-century learners.

Creative Thinking, Problem Solving and Decision Making though not as extensively covered as Critical Thinking are also aligned with NEP's call for promoting innovation, logical reasoning and independent thinking. NEP 2020 advocates for nurturing creativity and curiosity from an early stage, and these skills play a pivotal role in achieving that aim. Although their frequency in the textbook is comparatively lower, their presence reflects a step in the right direction. The textbook would benefit from more open-ended project work, case studies or simulations to expand students' exposure to these higher-order skills. These enhancements would be in line with NEP's focus on experiential learning and competency-based assessment.

Social Skills including Empathy, Interpersonal Relationships and Effective Communication are also integral to NEP 2020's vision of developing emotionally intelligent, collaborative and socially responsible citizens. However, these skills are less emphasized in the textbook, with relatively low item counts and negative variance values, indicating limited influence on content. NEP places strong emphasis on socio-emotional learning (SEL), which includes understanding others' perspectives, working in teams and resolving conflicts peacefully. To better align with NEP, the Social Science textbook should incorporate more real-life scenarios, role-plays and group activities that build these interpersonal skills and promote inclusive classroom dialogue. In doing so, it would more effectively support NEP's vision of education that fosters character, citizenship and a sense of community.

Similarly, Coping with Stress, Coping with Emotions and Self-Awareness are essential in promoting mental well-being, another key pillar of NEP 2020. In a rapidly changing and often stressful educational environment, the need for self-regulation and emotional resilience is more urgent than ever. The relatively lower emphasis on these skills in the textbook suggests an area for improvement. NEP 2020 encourages schools to provide supportive spaces for emotional development and mental health awareness. Incorporating reflective exercises, mindfulness activities and journal prompts could enhance students' ability to understand and manage their emotions, which in turn would support their academic and personal success.

Thus, CBSE Class IX Social Science textbook has made commendable efforts to integrate Life Skills in line with WHO standards and NEP 2020 goals. It successfully embeds Critical Thinking and to a certain extent, Creative Thinking and Problem Solving into the curriculum. However, the limited representation of other crucial Life Skills like Empathy, Effective Communication and Self-Awareness signals the need for a more balanced and inclusive approach. Moving forward, curriculum developers should strive to enhance both the quality and diversity of skill integration. By doing so, the textbook can evolve into a more powerful tool not only for academic learning but also for preparing

students to navigate the complexities of real-world challenges with confidence, resilience, and empathy.

Table 4.7. WHO Life Skills Mapping at CBSE Class -IX Social Science Textbook

Life Skills Mapping in CBSE Class – IX Social Science Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	India – size and location	9	2	0
2	Physical Features of India	14	0	0
3	Drainage	20	0	1
4	Climate	22	0	1
5	Natural Vegetation and Wildlife	16	0	2
6	Population	19	1	1
7	The Story of Village Palampur	43	0	5
8	People as Resource	36	0	11
9	Poverty as a Challenge	23	0	10
10	Food Security in India	31	1	9
11	What is Democracy?	49	4	10

	Why Democracy			
12	Constitutional Design	21	4	5
13	Electoral Politics	45	2	3
14	Working of Institutions	34	4	3
15	Democratic Rights	28	2	10
16	The French Revolution	30	1	19
17	Socialism in Europe and the Russian Revolution	22	3	12
18	Nazism and the Rise of Hitler	18	2	19
19	Forest Society and Colonialism	10	1	7
20	Pastoralists in the Modern World	10	4	10
TOTAL		500	33	138

From Table 4.7, it is highlighted that Thinking Skills dominate the CBSE Social Science textbook with 500 Life Skills identified items, followed by Emotional Skills with 138 Life Skills items, while Social Skills are least represented with only 33 Life Skills items.

4.3.3. Analysis of CBSE Class – IX Maths Textbook

Table 4.8.WHO Life Skills Component-Wise Distribution in CBSE Class – IX Maths Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	57	1	12	70
	Creative thinking skills	22	0	13	35
	Problem solving skills	79	0	148	227
	Decision making skills	0	0	0	0
	Self- Awareness skills	4	0	0	4
Social Skills	Inter-personal relationship skills	0	0	0	0
	Effective Communication skills	0	0	1	1
Coping Skills	Coping with Emotions	0	0	0	0
	Coping with Stress	0	0	0	0
	Empathy	1	0	0	1
Total		163	1	174	338

Analysis & Interpretation

CBSE Class IX Mathematics textbook serves as a crucial foundation for students, marking a significant transition from middle school to more advanced mathematical concepts. While the content is noticeably more complex and challenging compared to earlier classes, it still maintains connections to previously learned concepts. The textbook places a strong emphasis on developing Thinking Skills, which is evident from the data presented and aligns well with the nature of the chapters included. A total of 388 Life Skills items have been identified across various sections of the textbook, highlighting its focus on cognitive development. However, the analysis also reveals a notable lack of emphasis on Social and Emotional Skills, as only a limited number of items related to these domains are found throughout the content. This suggests an imbalance in the overall

skill development promoted by the textbook, with cognitive aspects receiving more attention than interpersonal or emotional growth.

The table 4.8 clearly shows that a total of 163 Life Skill items have been identified from the Content section of the textbook across various chapters. This indicates that the Content section is well-integrated with Life Skills, particularly aimed at enhancing the learner's Thinking Skills. Most of the identified items focus on cognitive development, reflecting the textbook's strong emphasis on promoting analytical and reasoning abilities through its core material and conceptual explanations.

Another significant column is the Question section, from which 174 Life Skill items have been identified the highest among all sections. This clearly indicates that the Question section is rich in content designed to stimulate students' cognitive and reasoning abilities. The large number of identified items demonstrates the textbook's emphasis on encouraging critical thinking and problem-solving, ultimately supporting the development of meaningful learning outcomes and deeper understanding for the students.

Lastly, the Activity section includes only a single identified Life Skill item, which is quite disappointing. This is concerning because the Activity section plays a crucial role in enhancing learners' metacognitive abilities through hands-on engagement and skill-based learning. Activities are essential for reinforcing concepts and achieving the intended goals of the textbook. The lack of focus in this area suggests a missed opportunity to promote active learning, self-reflection, and practical application of knowledge among students.

**Table 4.9. Overall Analysis of CBSE Class – IX Maths Textbook with Regard to WHO
Ten Core Life Skills Components**

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	70	2	20.71%	0.50	5.85%
	Creative thinking skills	35	3	10.35%	0.0	0.71%
	Problem solving skills	227	1	67.15%	2.69	90.03%
	Decision making skills	0	0	0	-0.47	-0.53%
	Self-Awareness skills	4	4	1.18%	-0.42	-0.31%
Social Skills	Inter-personal relationship skills	0	0	0	-0.47	-0.53%
	Effective Communication skills	1	5	0.29%	-0.45	-0.47%
Coping Skills	Coping with Emotions	0	0	0	-0.47	-0.53%
	Coping with Stress	0	0	0	-0.47	-0.53%
	Empathy	1	5	0.29%	-0.45	-0.47%
Total		338		100%		100%

Analysis & Interpretation

CBSE Class IX Mathematics textbook is a well-structured and comprehensive resource that introduces learners to a wide range of mathematical concepts, theories and examples aimed at strengthening their mathematical aptitude. With a total of 12 chapters, the book covers essential domains such as algebra, geometry, mensuration and statistics. Each chapter presents detailed explanations, promoting a strong conceptual understanding and supporting the cognitive development of students. Despite its academic strengths, the textbook shows notable gaps in fostering social and emotional skills. It offers limited scope for developing important social competencies such as cooperation, empathy and communication. Opportunities for students to express their thoughts, emotions or learning strategies are minimal, which hinders their holistic growth. In today's education system, encouraging learners to connect emotionally and socially is just as important as building subject knowledge. Moreover, the textbook places greater emphasis on procedural practice and formula-based exercises. Although concepts are explained clearly, the focus remains on solving mathematical problems rather than nurturing reasoning and analytical thinking. Many of the problems are presented in abstract, purely mathematical language, with little to no connection to real-life contexts. This disconnect limits the learners' ability to relate mathematical understanding to practical experiences in daily life. Incorporating more real-life examples, relatable situations, and interactive activities would greatly enrich the learning process. Doing so would not only make mathematics more engaging but also support the development of essential Life Skills, contributing to the overall personality and intellectual growth of students.

The textbook places greater emphasis on Thinking Skills, particularly highlighting Critical Thinking, Creativity, Problem Solving, and Self-awareness. This shows an uneven and biased distribution of Life Skills. While other skills are present, they are less prominent and have minimal impact on the overall structure and approach of the textbook, indicating a lack of balance in skill integration.

The table 4.9 above clearly shows that Problem Solving Skills are the most frequently identified, with a total of 227 items, making it the highest among all the Life Skills assessed. This indicates that Problem solving skill is well-aligned with the textbook's structure and plays a vital role in helping learners analyze and solve complex mathematical problems. The variance table shows a high percentage of 90.03%, signifying that this skill has a statistically significant presence and impact on the textbook content. It highlights the textbook's strong focus on developing learners' problem-solving abilities, while placing considerably less emphasis on other Life Skill components, resulting in a somewhat unbalanced skill distribution. Problem Solving skills statements extracted from the textbook are given as an example, "Are the following statements true or false? Give reasons for your answers". This statement was taken from the textbook, page number 3.

Critical Thinking Skills are the next most frequently identified, with 70 Life Skill items found in the textbook. However, this number is relatively low considering the importance and potential impact of this skill on learner development. According to the variance data, it accounts for only 5.85%, indicating a limited presence across the chapters. While this suggests that Critical Thinking has a positive and meaningful influence within the textbook, its overall impact is significantly smaller when compared to the dominant role played by Problem Solving Skills in shaping the textbook's approach. Critical Thinking skills statements extracted from the textbook are given as an example, "Whose decimal expansion is non-terminating recurring, can you conclude that it is a rational number?". This statement was taken from the textbook, page number 10.

Creative Thinking Skill is represented by only 35 identified items in the textbook, which is relatively low and unsatisfactory given its importance in fostering originality and innovation among students. The variance analysis shows a mere 0.71%, clearly indicating that this skill has a minimal influence on the textbook's overall content. This reflects an imbalance in the distribution of Life Skills, with Creative Thinking receiving far less emphasis compared to others, despite its crucial role in promoting imaginative and flexible problem-solving. Creative Thinking skills statements extracted from the textbook are

given as an example, “Suppose you want to make a model of a hut to keep in the school exhibition using bamboo sticks. Imagine how you would make it?”. This statement was taken from the textbook, page number 69.

Self-awareness Skill is represented by only 4 identified items in the textbook, which is unexpectedly low and quite disappointing given the potential impact this skill can have on both learners and content. The variance analysis shows a negative value of -0.31%, indicating that this skill has minimal and statistically insignificant influence within the textbook. Such low representation is unsatisfactory, highlighting a serious gap in promoting learners’ personal reflection and growth. Self-awareness skills statements extracted from the textbook are given as an example, “In your earlier classes, you have learnt about the number line and how to represent various types of numbers on it”. This statement was taken from the textbook, page number 1.

Effective Communication and Empathy are represented by only one identified item each in the textbook, which is highly inadequate and disappointing. These skills are essential for fostering holistic development and enhancing learners' soft skills, such as interpersonal understanding and expression. The variance analysis reveals a negative value of -0.47%, clearly indicating that these skills have a negligible influence on the textbook. This highlights a serious lack of emphasis on social and emotional learning within the curriculum content. Effective communication skills statements extracted from the textbook are given as an example, “Express 0.9999.... in the form p/q . Are you surprised by your answer? With your teacher and classmates discuss why the answer makes sense.”. This statement was taken from the textbook, page number 14.

Moreover, skills such as interpersonal relationships, decision-making, coping with emotions, and coping with stress are completely missing from the textbook, with no instances identified throughout its content. The total absence of these crucial Life Skills reflects a significant gap in the textbook’s approach to promoting holistic education. These skills play a vital role in shaping learners' personal and social well-being and their

exclusion limits the development of essential emotional and behavioral competencies among students.

4.3.4. Conclusion

CBSE Class IX Mathematics textbook is an academically robust and conceptually well-structured resource designed to build a solid foundation in mathematical learning. It introduces learners to 12 core chapters covering vital domains such as algebra, geometry, mensuration and statistics. Each chapter is organized with clear explanations, examples and structured exercises that promote the development of core mathematical understanding. The book serves as a critical bridge between middle school and secondary mathematics, helping students transition to more complex topics. In terms of content design, the textbook successfully caters to the cognitive domain, offering ample opportunities to sharpen analytical and problem-solving skills.

However, despite its strong conceptual foundation, the textbook reveals an imbalance in its Life Skills integration. Based on the analysis, a total of 388 Life Skill items have been identified, the majority of which are concentrated under the Thinking Skills domain. This uneven distribution highlights the textbook's limited capacity to promote the full spectrum of the WHO's Ten Core Life Skills, particularly Social and Emotional Skills. Components such as interpersonal relationships, decision-making, coping with stress and coping with emotions are entirely missing, while other skills like effective communication and empathy are represented by just one item each. The absence of these crucial Life Skills limits the textbook's ability to support learners' holistic development, which is a key emphasis of the National Education Policy (NEP) 2020.

The breakdown of Life Skill items shows that Problem Solving Skills dominate, with 227 items (67.15%) and a variance contribution of 90.03%, followed by Critical Thinking with 70 items (5.85%) and Creative Thinking with 35 items (0.71%). These findings clearly point to the textbook's cognitive bias, heavily centered on logic, reasoning and formula-based applications. While this focus supports students' academic growth in

mathematics, it fails to consider the broader educational objectives of fostering emotionally intelligent, socially capable and ethically grounded individuals. The minimal representation of Self-awareness (4 items) and almost complete exclusion of other soft skills severely undermines the aim of balanced skill development.

The National Education Policy (NEP) 2020 promotes a holistic and multidisciplinary approach to education, aiming to cultivate not only cognitive capacities but also social, ethical and emotional dimensions of learning. Within this vision, the WHO's Ten Core Life Skills play a central role. Beginning with Problem Solving Skills, which are heavily represented in the textbook, this aligns well with NEP 2020's call for competency-based education and critical problem-solving. By encouraging learners to analyze, calculate and draw logical conclusions, the textbook strongly supports this aspect. However, for NEP 2020 to be fully realized, problem-solving must be extended beyond abstract mathematical tasks to real-world applications, encouraging learners to use mathematics in social, economic and ethical contexts.

Critical Thinking Skills, although second in frequency, are also essential under NEP 2020, which emphasizes inquiry-based and analytical learning. These skills empower students to question assumptions, interpret data, and think independently. The textbook supports this to some extent through guided examples and reflective questions, yet the relatively small proportion of 70 items suggests that this potential is underutilized. A deeper integration of open-ended problems, debate-style math discussions, and real-life scenarios would help strengthen this alignment further. NEP encourages students to engage in cross-disciplinary thinking something the textbook could promote more effectively by connecting mathematics with social sciences, science, or environmental studies.

Creative Thinking Skills, which are represented by only 35 items (0.71% variance), play a vital role in fostering innovation, imagination and adaptability qualities that NEP 2020 regards as essential for 21st-century learners. The current textbook offers limited opportunities for students to approach problems in unique ways or explore

multiple solution paths. This restricts the learners' ability to think outside the box and experiment with new ideas. To better align with NEP 2020, the textbook could include design challenges, mathematical puzzles and pattern-recognition tasks that stimulate curiosity and inventive thinking.

Moving to Self-awareness Skills, only four items are identified with a negative variance of -0.31%, reflecting an insignificant impact. NEP 2020 encourages the development of values such as self-understanding, mindfulness, and goal-setting skills that are central to personal growth and resilience. However, the textbook provides virtually no opportunities for students to reflect on their learning experiences, strengths, or challenges.

Effective Communication Skills and Empathy, both recorded with just one identified item each, are crucial for building emotional intelligence and respectful relationships two priorities under NEP 2020's socio-emotional learning framework. The textbook does not encourage verbal or written expression of thought processes, peer-to-peer interaction, or collaborative problem-solving, which are critical for communication development. Similarly, empathy can be encouraged by including context-based word problems that reflect real-life human experiences such as fairness, equity or community challenges. NEP focus on multilingualism and communicative competence remains unsupported in this version of the textbook, pointing to a significant area for improvement.

Lastly, the absence of Interpersonal Relationships, Decision-making, Coping with Stress, and Coping with Emotions is highly concerning. These skills are indispensable for a learner's emotional well-being and ability to thrive in a social environment. NEP 2020 explicitly promotes mental health, emotional safety and value-based learning. The exclusion of these elements from the textbook means that students miss opportunities to practice emotional regulation, collaborative decision-making and interpersonal harmony. Incorporating classroom discussions, role-based math tasks, or community-linked projects would help nurture these competencies. Their integration is essential for building students

who are not just mathematically proficient but also socially conscious and emotionally resilient.

In summary, while the CBSE Class IX Mathematics textbook provides a strong academic foundation in terms of mathematical content and Thinking Skills, it fails to reflect the holistic and inclusive vision of education advocated by NEP 2020. The narrow focus on cognitive skills, particularly problem-solving, comes at the cost of ignoring vital social and emotional dimensions of learning. To truly support the all-round development of learners, future revisions of the textbook must include a balanced integration of all ten WHO Life Skills. This can be achieved through diversified exercises, real-life contexts, collaborative tasks, and reflective components ensuring that learners not only become skilled mathematicians but also empathetic, self-aware and socially responsible individuals.

Table 4.10. WHO Life Skills Mapping in CBSE Class-IX Mathematics Textbook

Life Skills Mapping in CBSE Class – IX Mathematics Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Number Systems	4	1	0
2	Polynomials	41	0	0
3	Coordinate Geometry	9	0	0
4	Linear Equations in Two Variables	14	0	0

5	Introduction to Euclid's Geometry	12	0	1
6	Lines and Angles	26	0	0
7	Triangles	45	0	0
8	Quadrilaterals	27	0	0
9	Circles	33	0	0
10	Heron's Formula	10	0	0
11	Surface Areas and Volumes	59	0	0
12	Statistics	20	0	0
TOTAL		336	1	1

Table 4.10 shows that the CBSE Class IX Mathematics textbook emphasizes Thinking Skills with 336 items, while both Social and Emotional Skills are minimally represented, with only one item each.

4.3.5. Analysis of CBSE Class – IX Science Textbook

Table 4.11. WHO Life Skills Component-Wise Distribution in CBSE Class – IX Science Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	100	20	128	248
	Creative thinking skills	18	12	24	54
	Problem solving skills	49	51	84	184
	Decision making skills	2	0	3	5
	Self- Awareness skills	9	0	1	10
Social Skills	Inter-personal relationship skills	0	8	0	8
	Effective Communication skills	4	10	0	14
Coping Skills	Coping with Emotions	2	0	0	2
	Coping with Stress	1	0	0	1
	Empathy	2	0	0	2
Total		187	101	240	528

Analysis & Interpretation

CBSE Class IX Science textbook is a content-rich, activity-based resource that effectively combines theoretical knowledge with practical application. It covers all essential topics, concepts, and examples relevant to students' everyday experiences. The textbook places significant emphasis on developing Thinking Skills, particularly highlighting Critical Thinking, Creative Thinking, and Problem-Solving skills, which align well with scientific learning. Through a detailed analysis, a total of 528 Life Skills items were identified across various sections of the textbook, including Content, Activities, and Questions. Importantly, all ten core Life Skills outlined by the WHO are represented in the textbook. However, the distribution of these skills is not uniform as some life skills appear more frequently than others, reflecting a variation in focus. This indicates that while the textbook aims for holistic development, there remains a need for

more balanced integration of all Life Skills to ensure comprehensive skill-building among learners.

Table 4.11 shows a total of 187 Life Skill items have been identified under the Content section, covering a wide range of skills. However, Interpersonal Relationship skill is notably absent from this section. The content includes examples, explanations, figures, and tables throughout the textbook, aimed at enhancing learners' understanding. This section highlights the textbook's focus on providing clear explanations to address students' queries. Despite this, not all chapters present a satisfactory number of skill-based elements, indicating an uneven distribution of required life skills across the content.

A total of 101 Life Skill items have been identified in the Activity section, which is comparable to the Content section, indicating that the textbook also places considerable emphasis on hands-on learning. This section is designed to promote learners' metacognitive development through various activities. However, most Life Skills are either missing or underrepresented, with a strong focus on Thinking Skills taking precedence. Only a small portion of Social Skills is included, suggesting an imbalance in the integration of the full range of Life Skills within the activity-based content.

From the analysis of table 4.11, a total of 240 Life Skill items have been identified under the Question section of the textbook. This highlights the section's strong emphasis on enhancing students' reasoning and analytical abilities. The majority of these items fall under the Thinking Skills domain, demonstrating a clear focus on critical and logical thinking. However, other Life Skills are notably absent from this section, indicating a lack of balance in addressing the broader spectrum of core Life Skills.

Table 4.12. Overall Analysis of CBSE Class – IX Science Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	248	1	46.96%	2.20	53.82%
	Creative thinking skills	54	3	10.23%	0.01	0.002%
	Problem solving skills	184	2	34.84%	1.47	24.32%
	Decision making skills	5	7	0.94%	-0.53	-3.23%
	Self-Awareness skills	10	5	1.89%	-0.48	-2.59%
Social Skills	Inter-personal relationship skills	8	6	1.51%	-0.50	-2.84%
	Effective Communication skills	14	4	2.65%	-0.43	-2.12%
Coping Skills	Coping with Emotions	2	8	0.37%	-0.57	-3.64%
	Coping with Stress	1	9	0.18%	-0.58	-3.79%
	Empathy	2	8	0.37%	-0.57	-3.64%
Total		528		100%		100%

Analysis & Interpretation

CBSE Class IX Science textbook is a well-rounded and detailed resource comprising 15 chapters, each designed to support the learner's holistic growth. It adopts an interdisciplinary framework, weaving together essential themes from Physics, Chemistry, Biology, and Environmental Science, which collectively form the core foundation of the subject. A significant emphasis is placed on the Thinking Skills domain, which is central to broadening students' perspectives and fostering a deeper understanding and appreciation of science education. Although Social Skills are also present, they are

relatively limited in number, despite their vital role in developing learners' interpersonal and intrapersonal competencies, which are essential for overall development. While the textbook provides a broad and integrated view of science, it lacks certain critical features that would enhance the learning experience. Notably, there is no reference section or suggestions for extended reading, which limits students' ability to explore topics beyond the given material. Additionally, some chapter-end exercises fail to offer experiential learning opportunities. These exercises often do not encourage learners to engage in deep critical thinking or solve problems independently. As a result, students miss out on valuable chances to develop the ability to handle challenging situations using their own reasoning and judgment. Although teachers play a key role in guiding learners, it is equally important for students to be given the time and space to arrive at conclusions on their own, which fosters independence and strengthens problem-solving abilities. Moreover, some questions included in the textbook are overly simplistic and can be answered through rote memorization, offering limited cognitive challenge. A few questions also fall short in encouraging learners to share their views or reflect on their personal experiences, thereby restricting opportunities for self-expression and emotional engagement.

In terms of Life Skills, the textbook successfully incorporates and represents all ten core components as outlined by the World Health Organization. This indicates a thoughtful alignment with the needs of learners and reflects an understanding of holistic education. However, the distribution of these skills across the textbook is uneven. While some skills are prominently featured, others are barely addressed, suggesting a need for better balance to ensure equal emphasis on all aspects of Life Skills education.

The analysis of the table 4.12 reveals that Critical Thinking skills are the most prominently featured, with 248 items identified from the textbook an outcome that aligns well with the subject's nature and objectives. This high frequency highlights the textbook's emphasis on developing learners' cognitive abilities and scientific reasoning. More importantly, the calculated variance of 53.82% strongly reinforces this observation, indicating a statistically significant dominance of Critical Thinking over other Life Skills.

This figure clearly demonstrates that the textbook heavily favors this skill, reflecting its intended impact on shaping the learners' analytical mindset and future academic readiness. Critical Thinking skills statements extracted from the textbook are given as an example, "Is there any change in mass when a chemical change takes place?". This statement was taken from the textbook, page number 31.

Problem-solving skills are highlighted as crucial in the textbook, with 184 Life Skill items identified to underscore its importance. The contents of the textbook clearly demonstrate the intrinsic value of this skill in shaping its foundational principles and engaging learners. The variance column expresses 24.32%, indicating the significant presence and focus on this skill within the textbook. This underscores the practical and solution-oriented approach emphasized throughout the book. Problem solving skills statements extracted from the textbook are given as an example, "How will you separate the crystals from the liquid from the China dish?". This statement was taken from the textbook, page number 23.

Creative Thinking Skills follow with 54 items identified in the textbook, which is considerably fewer compared to the top two skills. This indicates that while the skill is acknowledged, it holds relatively limited weight in the overall content. The variance contribution of just 0.002% further confirms its minimal influence, highlighting that creative thinking is not a major focus in the textbook's structure or approach to skill development. Creative Thinking skills statements extracted from the textbook are given as an example, "Cite an example to show that sound needs a material medium for its propagation". This statement was taken from the textbook, page number 174.

Effective Communication Skills are represented by only 14 items in the textbook, a notably low count compared to other skills. The calculated variance of -2.12% clearly indicates that this skill has minimal influence on the textbook content. This low percentage reflects a significant imbalance in the distribution of Life Skills, showing that communication, though essential for learner development, is not adequately emphasized in the textbook's overall structure. Effective Communication skills statements extracted

from the textbook are given as an example, “Compute the value of this force between you and your friend sitting closely. Conclude how you do not experience this force!”. This statement was taken from the textbook, page number 134.

Self-Awareness Skills are represented by only 10 items in the textbook, which is relatively low despite the crucial role this skill plays in shaping learners’ personal growth. The variance contribution of -2.59% highlights its limited influence within the overall content. This clearly indicates that the textbook does not give adequate attention to this important Life Skill and further reflects an imbalance in the distribution of Life Skills throughout the chapters, affecting the textbook’s holistic educational approach. Self Awareness skills statements extracted from the textbook are given as an example, “Which characteristic of the sound helps you to identify your friend by his voice while sitting with others in a dark room?”. This statement was taken from the textbook, page number 174.

Interpersonal Relationship Skills are represented by only 8 items in the textbook, making it one of the least emphasized skills compared to others. The variance contribution of -2.84% clearly indicates its minimal impact on the overall content. This low representation reflects a lack of balance in the integration of Life Skills, suggesting that the textbook does not adequately address the importance of social interaction and collaboration in the learning process. Interpersonal Relationship Skills statements extracted from the textbook are given as an example, “”. This statement was taken from the textbook, page number

Decision Making Skills are identified only 5 times in the textbook, indicating that this skill receives minimal attention and is not significantly emphasized in the content. The variance contribution of -3.23%, which is low and negatively skewed, further confirms its limited impact on the overall structure of the textbook. This clearly reflects a lack of balance in the inclusion of life skills, highlighting that decision-making is not uniformly or adequately represented across the chapters, despite its importance in real-life learning scenarios. Decision making skills statements extracted from the textbook are given as an example, “Soni says that the acceleration in an object could be zero even when

several forces are acting on it. Do you agree with her? Why?”. This statement was taken from the textbook, page number 159.

Coping with Emotions and Empathy are represented by only 2 items in the textbook, a notably low count that overlooks their importance in learners' emotional development. This minimal inclusion is concerning given the vital role these skills play. The variance contribution of -3.64% is extremely low, indicating an insignificant statistical impact. This clearly shows that the textbook lacks sufficient focus on emotional intelligence, reflecting a major gap in life skills integration. Coping with emotions and empathy skills statements extracted from the textbook are given as an example, “But if we kick a stone of the same size with equal force, it hardly moves. We may, in fact, get an injury in our foot while doing so!”. This statement was taken from the textbook, page number 118.

Coping with Stress ranks the lowest, with only a single item identified merely a token presence. Despite its crucial role in supporting learners' emotional well-being, the neglect of this skill in the textbook is highly concerning. The variance contribution of -3.79% clearly indicates a negligible impact on the overall content. This highlights the lack of balanced skill distribution, as only select skills receive attention, while essential emotional coping abilities are largely ignored in the textbook's framework. Coping with stress skills statements extracted from the textbook are given as an example, “Simply increasing grain production for storage in warehouses cannot solve the problem of malnutrition and hunger”. This statement was taken from the textbook, page number 203.

4.3.6. Conclusion

CBSE Class IX Science textbook presents itself as a structured, content-rich resource that integrates both theoretical understanding and practical application. Through its 15 well-organized chapters, the textbook offers an interdisciplinary approach, bringing together core concepts from Physics, Chemistry, Biology, and Environmental Science. This integrated format aims to foster a strong foundational base in science education

among learners at the secondary level. Moreover, the content is designed to be accessible, age-appropriate, and aligned with everyday experiences, making it relevant and meaningful for students. However, while the textbook does attempt to meet educational standards through its inclusion of WHO's ten core Life Skills, the overall distribution and balance of these skills remain an area of concern.

A total of 528 Life Skill items were identified through the analysis, covering various components such as Content, Activities and Question sections. The largest concentration of Life Skill items is found under the Thinking Skills domain particularly Critical Thinking and Problem-Solving Skills. These two components alone account for over 81% of the total Life Skill representation in the textbook, indicating a clear and deliberate focus on enhancing cognitive development. The heavy emphasis on these skills aligns well with the scientific orientation of the subject, which inherently involves inquiry, logic, analysis and reasoning. On the other hand, social and emotional skills are largely underrepresented, raising questions about the holistic nature of skill integration within the textbook.

When analyzed by section, the Question section ranks the highest in Life Skill representation with 240 items, followed by the Content section with 187 and the Activity section with 101. This suggests a strong emphasis on promoting cognitive engagement through questioning and problem-solving rather than experiential or hands-on learning. While the Activity section does support metacognitive development to an extent, it still lacks variety in terms of integrating broader Life Skill domains such as emotional regulation, interpersonal interaction and self-reflection. Furthermore, some chapter-end exercises appear overly simplistic and rely heavily on memorization, offering limited scope for critical thinking, expression, or creative exploration. Additionally, the absence of a reference section or extended reading options narrows the scope of independent learning.

In terms of skill-wise analysis, Critical Thinking stands out as the most dominant Life Skill with 248 items, contributing 53.82% to the overall variance. This strong

representation is statistically significant and reflects the textbook's emphasis on helping learners analyze information, evaluate evidence and draw conclusions core practices in scientific learning. Problem Solving Skills, with 184 items and a 24.32% contribution to variance, also receive significant attention, promoting learners' ability to identify issues, explore alternatives and apply logical strategies to find solutions. These two skills combined offer a cognitive foundation aligned with the principles of science education.

However, the representation of other equally important skills such as Creative Thinking, Effective Communication and Self-Awareness is far less impressive. Creative Thinking, despite being essential for innovation and scientific curiosity, contributes only 0.002% to variance, showing limited integration. Communication Skills and Self-Awareness Skills, with 14 and 10 items respectively, are also minimally included. More alarmingly, Interpersonal Relationship Skills, Decision-Making, Empathy, Coping with Emotions, and Coping with Stress are either marginally present or almost entirely neglected. These skills collectively account for a very small percentage of both frequency and variance, reflecting a significant imbalance in Life Skill inclusion. Such gaps suggest that the textbook focuses heavily on intellectual development while falling short in addressing the emotional, social and ethical dimensions of student growth.

Critical Thinking the most emphasized skill in the textbook, aligns strongly with NEP 2020's focus on moving away from rote learning to conceptual understanding and higher-order thinking. NEP advocates for inquiry-based, discovery-oriented and discussion-based teaching methods all of which require and reinforce critical thinking. The textbook's strong focus on this skill reflects an important step toward implementing NEP goals by encouraging learners to think independently and analytically. Problem Solving skills also align with NEP 2020's goal of preparing learners for real-life challenges. The policy calls for competency-based education that helps students apply their learning in practical contexts. The science textbook's emphasis on problem-solving through inquiry, experiment-based tasks, and applied examples fosters resilience,

adaptability, and logical reasoning skills essential for 21st-century learners and actively encouraged under NEP.

Creative Thinking, while acknowledged in the NEP 2020 as vital for innovation, entrepreneurship, and adaptability is not sufficiently emphasized in the textbook. NEP promotes creativity as a core component of education by recommending cross-disciplinary approaches, integration of arts and sciences and experiential learning. The minimal presence of creative thinking in the textbook indicates a gap between NEP's intent and actual implementation within the science curriculum. More creative tasks, open-ended questions and exploratory activities could bridge this gap effectively. Communication Skills, though essential for collaboration, presentation and interpersonal engagement, receive limited focus. NEP 2020 highlights the development of communication abilities across all subjects to help learners express their ideas clearly and engage in meaningful dialogue. The textbook's limited attention to this skill fails to fully support NEP's vision of nurturing articulate, confident individuals. Strengthening communication tasks, reflective writing and peer discussions could enhance this skill's presence. Self-Awareness Skills, which contribute to emotional intelligence, align with NEP 2020's emphasis on promoting mindfulness, self-understanding and reflective learning. While NEP underscores the need for socio-emotional learning (SEL) as part of education, the textbook shows little integration of these practices. Inclusion of reflection prompts, self-assessment tasks, or value-based discussions could make this component more prominent and in tune with NEP guidelines.

Interpersonal Relationships, Empathy, Coping with Emotions and Coping with Stress are critically underrepresented, which contradicts NEP 2020's focus on emotional well-being and mental health. The policy strongly recommends integrating SEL and mental health support in curriculum design, including stress management, empathy building and relationship education. The textbook's neglect of these components marks a significant gap in meeting NEP's holistic development goals. Without these skills,

students may face challenges in group work, emotional regulation and social adjustment areas NEP considers crucial in today's fast-changing world.

Thus, while the CBSE Class IX Science textbook effectively addresses some core Life Skills particularly Critical Thinking and Problem Solving it falls short in presenting a balanced, inclusive approach to Life Skills education. The lack of focus on emotional, interpersonal and self-regulation skills indicates that the textbook leans heavily toward academic and cognitive domains, rather than fostering well-rounded individuals as envisioned by NEP 2020. For true alignment with the policy, future revisions of the textbook should aim to integrate a more diverse range of Life Skills across all sections content, activities and assessments. This would ensure learners are not only academically competent but also emotionally resilient, socially responsible and prepared to navigate real-world challenges with confidence and empathy.

Table 4.13. WHO Life Skills Mapping in CBSE Class-IX Science Textbook

Life Skills Mapping in CBSE Class – IX Science Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Matter in our Surroundings	42	2	0
2	In Matter Around us Pure?	34	4	0
3	Atoms and Molecules	27	1	0
4	Structure of the Atoms	29	0	0
5	The Fundamental Unit of Life	27	2	0
6	Tissues	28	0	0

7	Diversity in Living Organisms	31	0	0
8	Motion	50	2	0
9	Force and Laws of Motion	44	1	2
10	Gravity	40	1	0
11	Work and Energy	42	4	0
12	Sound	22	5	0
13	Why Do We Fall Ill?	32	0	2
14	Natural Resources	32	0	0
15	Improvement in Food Resources	21	0	1
TOTAL		501	22	5

Table 4.13 highlights that Thinking Skills dominate with 501 identified items, followed by Social Skills with 22 items, while Emotional Skills are the least represented, with only 5 items in the textbook.

4.3.7. Analysis of CBSE Class – X Social Science Textbook

Table 4.14. WHO Life Skills Component-Wise Distribution in CBSE Class – X Social Science Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	148	14	194	356
	Creative thinking skills	34	23	42	99
	Problem solving skills	29	6	9	44
	Decision making skills	14	2	5	21
	Self- Awareness skills	20	8	3	31
Social Skills	Inter-personal relationship skills	30	3	1	34
	Effective Communication skills	15	7	9	31
Coping Skills	Coping with Emotions	32	0	0	32
	Coping with Stress	31	0	0	31
	Empathy	42	1	2	45
Total		395	64	265	724

Analysis & Interpretation

CBSE Class X Social Science textbook is a well-structured and comprehensive resource designed to equip students with strong analytical abilities to address real-life issues. It offers detailed explanations and relatable examples that stimulate curiosity, enhance comprehension and develop critical thinking. The use of illustrations helps clarify key concepts and reinforces understanding, while creative inputs across chapters contribute to the development of various essential skills. A total of 724 Life Skills items have been identified throughout the textbook, encompassing all ten core components as outlined by the WHO. The textbook maintains a balanced approach in promoting these

skills, though certain skills receive more emphasis than others. Overall, the book plays a vital role in fostering holistic development by integrating both cognitive and emotional learning, thereby preparing learners to engage meaningfully with their surroundings and make informed responsible decisions.

Table 4.14 shows that the Content column contains a total of 395 items, making it the most substantial section of the textbook. This highlights the textbook's richness in content, presenting diverse scenarios and perspectives essential for students' learning. The section includes examples, detailed explanations, illustrations and images that make each chapter comprehensive and engaging. It is carefully designed to foster both analytical thinking and emotional understanding. Notably, all ten core Life Skills are represented in this column, each with a considerable number of entries. This balanced and thoughtful integration of Life Skills through content makes the textbook effective in promoting holistic development among learners, which is both meaningful and satisfactory.

The Activity column includes a total of 64 Life Skills items, which is relatively low given the wide range of chapters covered in this subject. Activities are a vital component of the textbook, as they support experiential learning by encouraging students to actively participate and interact with the content. Rather than relying solely on passive listening during classroom lectures, activities help engage learners in a more meaningful way, promoting deeper understanding and practical application of the concepts taught.

The Question section contains a total of 265 Life Skills items, which is a considerable and satisfactory number. However, given the overall length and depth of the textbook, this figure can be considered average. The Question section holds significant importance, as it serves as a tool to assess and reinforce students' understanding of the content. It also provides a platform for learners to express their thoughts, opinions and interpretations. Through exercises and review questions, students are encouraged to reflect, think critically and engage more deeply with the subject matter, thereby enhancing their overall learning experience.

Table 4.15. Overall Analysis of CBSE Class – X Social Science Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	356	1	49.17%	2.78	85.85%
	Creative thinking skills	99	2	13.67%	0.26	7.5%
	Problem solving skills	44	4	6.07%	-0.27	-0.86%
	Decision making skills	21	8	2.9%	-0.50	-2.82%
	Self-Awareness skills	31	7	4.28%	-0.41	-1.82%
Social Skills	Inter-personal relationship skills	34	5	4.69%	-0.37	-1.57%
	Effective Communication skills	31	7	4.28%	-0.41	-1.82%
Coping Skills	Coping with Emotions	32	6	4.42%	-0.39	-1.84%
	Coping with Stress	31	7	4.28%	-0.41	-1.82%
	Empathy	45	3	6.22%	-0.26	0.80%
Total		724		100%		100%

Analysis & Interpretation

CBSE Class X Social Science textbook is a well-structured, informative and creatively designed resource that offers a comprehensive understanding of the subject. It integrates four separate components like Geography, Political Science, History and Economics each contributing unique chapters and perspectives, totaling 22 chapters in all. The content is systematically presented with clear, simple explanations and relevant examples, making complex concepts easier for students to grasp. Rich in educational value, the book incorporates various activities to promote experiential learning and deeper

engagement. A noteworthy feature of the textbook is the inclusion of reference sections in some parts, which encourages students to explore beyond the textbook and develop research-oriented thinking. The use of color throughout the textbook enhances its visual appeal and motivates students to read more actively, as opposed to engaging with dull, black-and-white text. However, despite the colorful presentation, certain images are unclear due to poor color contrast, making them difficult to interpret or identify properly. While the textbook emphasizes activities, not all of them effectively promote heuristic learning or stimulate curiosity and critical thinking. Some activities are either too basic or lack the depth needed to foster cognitive development. Additionally, certain chapters include very limited exercise questions, which reduces opportunities for students to reinforce their understanding and engage in self-assessment. This can be a drawback for learners who benefit from practicing what they've learned. Overall, the CBSE Class X Social Science textbook offers a solid foundation for understanding key social science concepts. Yet, there is scope for improvement in terms of enhancing the quality of images, enriching activity design for better learning outcomes, and providing more exercises to support independent learning.

Based on the data presented in table 4.15, Critical Thinking emerges as the most prominently featured skill, with 356 Life Skill items identified in the textbook. This is a satisfactory and substantial number, reflecting the textbook's strong emphasis on fostering critical thinking abilities among learners. The inclusion of this skill highlights the aim of equipping students to think analytically and respond effectively to various problem-solving situations. The statistical analysis further supports this, with a variance and z-score contribution of 85.85%, indicating that this skill is significantly represented. Such a high percentage demonstrates that Critical Thinking holds a dominant and statistically meaningful presence throughout the textbook's content. Critical thinking skills statements extracted from the textbook are given as an example, "Why are we discussing things like household work in this textbook on Political Science? Is it politics?". This statement was taken from Democratic Politics – II textbook, page number 30.

Creative Thinking skill ranks second, with 99 Life Skill items identified from the textbook a relatively low number. Although it follows Critical Thinking in frequency, the quantity is not quite satisfactory, especially considering the vital role this skill plays in enhancing learners' cognitive growth and imaginative capacity. Increasing the emphasis on Creative Thinking would significantly benefit students by fostering innovation and mental flexibility. According to the z-score and variance analysis, this skill accounts for only 7.5%, which is an average figure and indicates its limited influence in shaping the textbook's content. This clearly suggests that Creative Thinking is underrepresented, and its greater integration is essential for promoting the learner's overall holistic development. Creative thinking skills statements extracted from the textbook are given as an example, "Imagine that you are an indentured Indian labourer in the Caribbean. Drawing from the details of this chapter, write a letter to your family describing your life and feelings.". This statement was taken from History textbook, page number 78.

Empathy is the next identified skill, with 45 Life Skill items extracted from the textbook an amount that is relatively low but still contributes modestly. This skill aligns well with the textbook's nature, so its presence is expected, though not extensively emphasized. The z-score and variance analysis reveal a contribution of just 0.80%, indicating a minimal statistical impact. This low percentage highlights an uneven distribution of Life Skills within the textbook, suggesting that Empathy, despite its relevance, plays a limited role in shaping the content. Greater inclusion of this skill could enhance the emotional and social understanding of learners. Empathy skills statements extracted from the textbook are given as an example, "People from various communities that lived in Lebanon came to live in its capital, Beirut. They lived together, intermingled, yet fought a bitter civil war among themselves. One of Khalil's uncles was killed in that war." This statement was taken from Democratic Politics – II textbook, page number 7.

Problem-Solving skills are next, with only 44 Life Skill items identified from the textbook, indicating a relatively low presence. The z-score and variance analysis show a contribution of -0.86%, reflecting a below-average and limited impact on the textbook's

overall structure. This suggests that Problem-Solving is not a major focus within the content and has minimal influence on how the textbook has been framed. Problem solving skills statements extracted from the textbook are given as an example, “Do you think the government has a role in making these facilities available. Why?”. This statement was taken from Economics textbook, page number 68.

Interpersonal Relationship skills follow with 34 Life Skill items identified from the textbook, reflecting a minimal presence. This limited number indicates a low level of emphasis on this skill within the content. According to the z-score and variance data, a value of -1.57% is recorded, clearly showing that this skill has a relatively insignificant influence on the development and structure of the textbook’s chapters and units. This suggests the need for greater inclusion to support social and collaborative learning. Interpersonal relationship skills statements extracted from the textbook are given as an example, “The two parties are historically rivals to each other. They had to form a coalition government because neither of them got clear majority seats on their own in the 2005 elections”. This statement was taken from Democratic Politics – II textbook, page number 6.

Coping with Emotions is represented by 32 Life Skill items in the textbook. Although this number is relatively low, the items identified are concentrated in specific sections and content areas, indicating selective emphasis. The z-score and variance analysis reveal a value of -1.84%, highlighting the limited overall influence of this skill on the textbook’s structure and content. Despite its presence, the distribution is narrow, suggesting that while the skill is acknowledged, it receives focused rather than widespread attention throughout the textbook. Coping with emotions skills statements extracted from the textbook are given as an example, “Though globalization has created opportunities for paid work for women, the condition of employment shows that women are denied their fair share of benefits”. This statement was taken from Economic textbook, page number 69.

Effective Communication, Self-Awareness and Coping with Stress skills each have 31 Life Skill items identified in the textbook, reflecting a relatively low presence. The z-score and variance analysis indicate a value of -1.82%, showing that these skills are given comparatively less importance than others. Their limited representation suggests a minimal impact on the overall structure and content of the textbook, highlighting the need for greater inclusion to support students' personal development and emotional well-being. Coping with stress skills statements extracted from the textbook are given as an example, "The weaver lost the space to bargain for prices and sell to different buyers; the price they received from the Company was miserably low and the loans they had accepted tied them to the Company". This statement was taken from History textbook, page number 91.

Decision-Making skills are represented by 21 items extracted from various sections of the textbook. Although the skill is present, the overall number remains quite low, indicating a minimal impact on the textbook's content. The Z-score and variance analysis yield a value of -2.82%, clearly highlighting its limited significance in shaping the textbook. This suggests that Decision-Making is underrepresented and the distribution of Life Skills across the textbook is imbalanced. A more equitable inclusion of such essential skills is necessary to support students' ability to make informed and responsible choices. Decision making skills statements extracted from the textbook are given as an example, "He does not practice either his mother's or father's religion and does not wish to be known by either". This statement was taken from Democratic Politics – II textbook, page number 7.

4.3.8. Conclusion

CBSE Class X Social Science textbook stands as a valuable educational resource that blends conceptual clarity, structured content and real-world relevance. One of the notable strengths of this textbook lies in its engaging format clear explanations, illustrative images, relatable examples and colored visuals which collectively enhance readability and student motivation. The integration of four disciplines Geography, Political Science, History and Economics adds depth and diversity, ensuring a broad understanding of social

science. Additionally, the inclusion of reference sections and review questions promotes inquiry-based learning and independent exploration. However, several limitations emerge on closer analysis. Certain chapters lack adequate exercises, and some activities fall short in fostering heuristic and experiential learning. Moreover, not all visuals are of high quality, with some appearing unclear due to poor contrast. More importantly, Life Skills are not uniformly distributed across the textbook; some are significantly emphasized while others are either underrepresented or minimally addressed.

A major positive aspect is the textbook's strong focus on Critical Thinking, with 356 identified instances 49.17% of the total Life Skill entries. This reflects the textbook's intent to promote logical analysis, evidence-based understanding, and problem awareness among students, aligning well with the objectives of Social Science education. On the downside, other essential Life Skills like Decision Making (21 instances), Coping with Stress (31), and Effective Communication (31) receive far less emphasis. Such an imbalance in representation reveals a gap in the textbook's approach to fostering well-rounded learners. While the Content column is the richest (395 items), representing all 10 WHO core skills, Activity (64 items) and Question (265 items) sections do not equally reinforce this diversity of skills, pointing to missed opportunities for deeper engagement.

The statistical findings support this inconsistency. For example, Critical Thinking shows a high positive variance contribution of 85.85%, making it the most statistically dominant skill. Meanwhile, other skills like Decision Making (-2.82%), Self-Awareness (-1.82%), and Interpersonal Relationships (-1.57%) demonstrate negative variance contributions, indicating weaker influence in the textbook's overall structure. This reveals a lack of balance in integrating the ten WHO core Life Skills, which ideally should be evenly reflected to nurture students' emotional, social and cognitive development. A more deliberate and uniform representation would help ensure that students are not only able to analyze information critically but also communicate effectively, handle emotional challenges, build relationships and make sound decisions.

From the perspective of NEP 2020, the distribution of Life Skills in the textbook does not fully support its vision of holistic and multidisciplinary learning. NEP emphasizes the development of critical and creative thinking, effective communication, emotional intelligence, collaboration and responsible decision-making. While Critical Thinking (356 items) and Creative Thinking (99 items) align well with NEP's goal of developing higher-order cognitive skills, the lack of adequate emphasis on Problem Solving (44 items) and Decision Making (21 items) falls short of meeting the policy's aim of equipping learners with practical and adaptive life competencies. Similarly, the low representation of Effective Communication and Interpersonal Relationships undermines NEP's emphasis on strengthening social-emotional learning and interpersonal development.

The Life Skill of Empathy (45 items), though modestly represented, complements NEP's call for nurturing compassionate citizens with a strong sense of ethics and responsibility. However, its low variance contribution (0.80%) signals that its inclusion is more incidental than intentional. Skills like Coping with Emotions (32 items) and Coping with Stress (31 items), essential for student well-being, are clearly underrepresented despite NEP 2020 strongly promoting mental health, resilience and socio-emotional well-being as integral components of education. This shows that while the textbook touches upon the broader goals of NEP, a more explicit alignment and balanced skill development approach are necessary to fully realize these goals.

Furthermore, Self-Awareness (31 items) and Effective Communication (31 items) are central to NEP 2020's emphasis on building confident individuals who can reflect on their actions and interact meaningfully in diverse contexts. Their limited inclusion in the textbook suggests a missed opportunity to incorporate reflective practices, dialogue-based learning, and expressive activities, which are crucial for personal growth and identity formation. Problem Solving, another NEP-aligned skill, though essential in Social Science where learners examine civic, economic and historical challenges, is present only 44 times with a -0.86% variance, indicating limited practical application within the text.

The section-wise analysis also indicates areas for enhancement. The Content section effectively integrates all 10 WHO Life Skills, often embedding them in narrative examples, case studies and thematic descriptions. However, the Activity section, which should ideally foster experiential and heuristic learning as promoted by NEP 2020, includes only 64 Life Skill items. This is relatively low considering the potential of activities to build real-world competencies such as collaboration, problem-solving and emotional regulation. NEP highlights learning-by-doing as a core pedagogical shift, which the current design of this textbook does not fully capitalize on. Similarly, the Question section, though stronger than the Activity section, with 265 items, remains average in its capacity to assess all-round skill development.

Thus, CBSE Class X Social Science textbook successfully provides foundational knowledge and significantly nurtures critical and analytical thinking, which is commendable and aligns well with both WHO Life Skills and NEP 2020's vision. It incorporates illustrative and accessible content that engages learners and encourages active participation. However, the inconsistent and imbalanced representation of Life Skills is a major drawback. Skills such as Decision Making, Effective Communication, Coping with Stress and Self-Awareness need greater emphasis to support the holistic development NEP envisions. To enhance its effectiveness, the textbook should diversify and strengthen its activities, include more reflective and scenario-based questions, and ensure equitable representation of all ten core Life Skills. By doing so, it will not only be better aligned with global frameworks like WHO's Life Skills and national priorities outlined in NEP 2020 but also empower students to become competent, compassionate, and responsible individuals.

Table 4.16. WHO Life Skills Mapping in CBSE Class-X Social Science Textbook

Life Skills Mapping in CBSE Class – X Social Science Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Resources and Development	24	2	3
2	Forest and Wildlife Resources	11	2	0
3	Water Resources	18	3	5
4	Agriculture	18	2	2
5	Minerals and Energy Resources	18	0	2
6	Manufacturing Industries	15	1	3
7	Lifelines of National Economy	16	6	2
8	Development	20	4	5
9	Sectors of the Indian Economy	46	3	9
10	Money and Credit	36	2	3
11	Globalization and the Indian Economy	44	3	2
12	Consumer Rights	28	3	5
13	Power Sharing	15	5	5
14	Federalism	30	0	0

15	Gender, Religion and Caste	24	4	7
16	Political Parties	18	1	2
17	Outcomes of Democracy	23	2	3
18	The Rise of Nationalism in Europe	38	5	12
19	Nationalism in India	28	5	12
20	The Making of a Global World	20	4	10
21	The Age of Industrializatio n	30	2	12
22	Print Culture and the Modern World	31	6	4
TOTAL		551	65	108

Table 4.16 indicates that the CBSE Class X Social Science textbook emphasizes Thinking Skills with 551 items, followed by Emotional Skills with 108 items, and Social Skills with 65 items identified in the content.

4.3.9. Analysis of CBSE Class – X Maths Textbook

Table 4.17. WHO Life Skills Component-Wise Distribution in CBSE Class-X Maths Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	41	0	35	76
	Creative thinking skills	8	1	3	12
	Problem solving skills	149	9	236	394
	Decision making skills	0	0	0	0
	Self- Awareness skills	0	0	0	0
Social Skills	Inter-personal relationship skills	0	0	0	0
	Effective Communication skills	0	0	0	0
Coping Skills	Coping with Emotions	0	0	0	0
	Coping with Stress	0	0	0	0
	Empathy	0	0	0	0
Total		198	10	274	482

Analysis & Interpretation

CBSE Class 10 Mathematics textbook is primarily centered around developing a strong understanding of core mathematical concepts that serve as the foundation for advanced studies and practical applications in everyday life. It presents mathematics not merely as a subject of numbers and formulas but as a logical and structured discipline that sharpens the learner's reasoning and problem-solving abilities. From this textbook a total of 482 Life Skill items is extracted from the textbook which is large in number. But unfortunately this textbook only give stresses to Thinking skills by giving importance to Critical skills, Creative skills and Problem solving skills but neglecting other skills which are crucial for the holistic development of the learner.

From the above table 4.17, a total of 198 Life Skill items have been identified under the Content column, which is a significant number. However, it is concerning that

only certain specific skills are represented, while other equally important Life Skills are entirely missing. This lack of inclusivity is disappointing, especially when considering the broader educational impact the textbook aims to achieve. A more balanced representation of all essential Life Skills would greatly enhance the textbook's effectiveness in supporting holistic student development.

Only 10 Life Skill items have been identified under the Activity section of the textbook, which is notably minimal. This low number highlights a missed opportunity, especially considering how crucial this section is for shaping young minds during their formative years. Strengthening and expanding the Activity section could significantly enhance students' creativity and help nurture their imaginative thinking more effectively, contributing to a more engaging and holistic learning experience.

The Question column contains a total of 274 Life Skill items, the highest among all sections of the textbook. Including a wide range of exercises is vital for fostering learners' curiosity, improving information retention and promoting meaningful engagement with the subject. These questions play a key role in helping students think critically, reflect on what they have learned and deepen their overall understanding of the content.

Table 4.18. Overall Analysis of CBSE Class – X Maths Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	76	2	15.76%	0.22	0.56%
	Creative thinking skills	12	3	2.48%	-0.29	-0.95%
	Problem solving skills	394	1	81.74%	2.79	86.69%
	Decision making skills	0	0	0%	-0.38	-1.68%
	Self-Awareness skills	0	0	0%	-0.38	-1.68%
Social Skills	Inter-personal relationship skills	0	0	0%	-0.38	-1.68%
	Effective Communication skills	0	0	0%	-0.38	-1.68%
Coping Skills	Coping with Emotions	0	0	0%	-0.38	-1.68%
	Coping with Stress	0	0	0%	-0.38	-1.68%
	Empathy	0	0	0%	-0.38	-1.68%
Total		482		100%		100%

Analysis & Interpretation

CBSE Class – X Maths textbook is a well-structured and concept-driven resource developed to strengthen students’ foundational understanding of mathematics. This textbook is designed to promote logical reasoning, analytical thinking and problem-solving skills, which are crucial for academic success and everyday decision-making. This textbook consist of 14 chapters which consist of different units necessary for the learner. It consist of vast concept which are having a relation with previous knowledge and can be easily align together with the concept introduce in this textbook. Even though the content

and context of each chapter is fine like wine, the textbook neglect important part like activity section where real learning and self-obligation towards life grows among the children. This textbook even though illustrated well the physical aspects of the textbook surely proclaim that the quality of the book is not of good quality and even the paper used are not suitable for color print as it can be scratched easily. Besides, this textbook only give importance to Thinking Skills which is quite compatible with the book but other skills like Social skills and Emotional skills are totally neglected and absent in this book. One noticeable shortcoming is the lack of real-life connections in many of the exercises. Most problems are abstract in nature, making it difficult for students to relate what they are learning to their everyday experiences. This reduces the perceived relevance of topics like quadratic equations, trigonometry and statistics. The exercises mainly focus on procedural knowledge rather than encouraging exploration or analysis, and there is little emphasis on open-ended questions that allow students to think beyond formulas and algorithms. Another loophole is the absence of tasks that address common student errors or misconceptions. There is no structured approach to help learners reflect on mistakes or deepen their conceptual understanding through error analysis. The book also provides very few higher-order thinking questions. Most tasks demand mechanical problem-solving rather than conceptual insight, analysis or justification.

The data presented in the table 4.18 highlights that Problem Solving is the most emphasized skill in the textbook, with 394 Life Skill items identified. This strong presence indicates that the textbook heavily integrates analytical thinking and reasoning, aligning well with the nature of mathematical content, which often demands clear conclusions through logical problem-solving. Statistically, the z-score and variance analysis yield a high value of 86.69%, suggesting a notable imbalance in the distribution of Life Skills. While this emphasis showcases the textbook's strong alignment with problem-solving demands, it also reveals that other essential life skills are underrepresented. Consequently, the overall distribution of skill items is uneven, pointing to a need for more balanced skill integration to support holistic student development. Problem solving skills statements extracted from the textbook are given as an example, “Let us refer to fig 9.1 again. If you

want to find the height CD of the minar without actually measuring it, what information do you need?”. This statement was taken from the textbook, page number 134.

Critical thinking follows with only 76 Life Skill items identified in the textbook, which is relatively low. Despite its crucial role in fostering deep understanding, encouraging curiosity and helping learners become more competent and confident in handling complex situations, the limited attention it receives is disappointing. Based on the z-score and variance column, a value of 0.56% is observed, clearly indicating that the textbook places greater emphasis on certain skills while neglecting others. This results in an uneven approach to skill development, failing to recognize the need for fostering a wide range of cognitive abilities in learners. The data also reflects that this skill holds minimal influence and significance within the textbook’s overall structure and content. Critical thinking skills statements extracted from the textbook are given as an example, “Take a point P outside the circle and try to draw tangents to the circle from this point. What do you observe?”. This statement was taken from the textbook, page number 148.

Creative thinking skills are represented by only 12 Life Skill items in the textbook, which is notably low. The Z-score and variance analysis reveals a value of -0.95%, indicating that this skill has a below-average presence. This clearly indicates that creative thinking has a minimal impact on the textbook's content development and contributes little to its overall educational design. It also highlights a noticeable imbalance in the distribution of skills throughout the textbook. Creative thinking skills statements extracted from the textbook are given as an example, “Draw a circle on a paper. Take a point P inside it. Can you draw a tangent to the circle through this point?”. This statement was taken from the textbook, page number 148.

Skills such as decision-making, self-awareness, interpersonal relationships, effective communication, coping with emotions, coping with stress, and empathy are entirely absent from the textbook. This clearly reflects a biased focus, where only certain skills are given importance while other equally vital skills considered foundational to overall skill development are overlooked. The z-score and variance analysis, showing a

value of -1.68%, further confirms that these skills have a minimal and insignificant influence on the textbook's structure and content.

4.3.10. Conclusion

CBSE Class 10 Mathematics textbook is a comprehensive and well-organized academic resource that plays a vital role in laying the foundation for students' higher education in mathematics. Designed around a logical progression of topics, it facilitates the development of core mathematical competencies such as numerical fluency, algebraic reasoning, geometrical understanding, and data handling. With 14 well-structured chapters, the textbook effectively supports the learner's academic journey by connecting previously learned concepts with new ones, allowing for a cohesive learning experience. The primary strength of the textbook lies in its rigorous content and its alignment with curriculum standards, making it a dependable tool for developing cognitive and analytical abilities.

The textbook places overwhelming emphasis on Thinking Skills, especially Problem-Solving, with 394 Life Skill items identified in this domain alone. This clearly demonstrates a strong alignment between the textbook's content and the promotion of analytical and reasoning capabilities, which are undoubtedly vital for mathematics. The high z-score and variance contribution of 86.69% statistically validate this dominance. In addition, Critical Thinking is also featured with 76 items, though its representation is notably less pronounced, with a 0.56% variance contribution. Creative Thinking is barely represented, with only 12 items and a negative z-score contribution of -0.95%, highlighting its minimal impact. These figures reflect a narrowed focus on selecting cognitive skills, which, while essential, do not provide a comprehensive developmental experience for students.

This imbalanced representation of Life Skills stands in contrast to the holistic education goals outlined in NEP 2020, which emphasizes the integration of 21st-century skills into the curriculum. The policy calls for a multidisciplinary, learner-centered

approach that fosters creativity, collaboration, communication, emotional intelligence, ethical reasoning and self-awareness. The absence of many of these crucial components specifically, decision-making, self-awareness, effective communication, interpersonal relationships, coping with emotions, coping with stress and empathy from mathematics textbook suggests a disconnection between national educational objectives and textbook implementation. These are not just auxiliary skills but are integral to building responsible, self-aware and socially engaged individuals.

The stark absence of Social Skills and Coping Skills from the textbook, as evidenced by a z-score and variance contribution of -1.68% for each, reveals a significant loophole. While mathematics may traditionally be seen as a content-driven subject, modern pedagogical approaches stress the importance of making all learning experiences socially relevant and emotionally engaging. The absence of any effort to incorporate such skills into mathematical instruction reduces opportunities for students to apply what they learn in interpersonal or real-world scenarios. NEP 2020 calls for education rooted in the Indian ethos that contributes to personal and societal well-being and ignoring these skill areas undermines this vision.

Furthermore, the Content section, with 198 Life Skill items, demonstrates a reasonable volume of embedded skill-building elements. However, the lack of diversity in these skills raises concern. The Activity section, with just 10 identified items, represents a missed opportunity to promote experiential learning, as emphasized in NEP 2020. Activities offer an ideal platform for fostering creativity, collaboration, and self-directed learning. Their underrepresentation suggests a limited scope for students to develop hands-on problem-solving abilities, to work collaboratively, or to explore mathematical ideas beyond textbook procedures. NEP 2020 envisions classrooms as active, engaging spaces where students learn through inquiry, experimentation and real-world problem-solving a vision not fully realized here.

The Question section, with 274 Life Skill items, is the most enriched segment in terms of quantity. It reflects the textbook's strength in encouraging procedural and logical

thinking. Yet, even within this domain, the focus is heavily skewed toward formulaic problem-solving. There is limited encouragement for students to reflect on errors, justify answers or critically evaluate different methods of solution. NEP 2020 calls for competency-based learning, which requires students to engage with higher-order thinking, including analysis, synthesis and evaluation. The textbook could be strengthened by including more open-ended and real-life problems that encourage deeper exploration and reflective thinking.

The absence of error analysis, reflection-based learning and higher-order questioning is another significant shortcoming. Students benefit immensely from identifying and correcting their mistakes, which helps solidify conceptual understanding. Furthermore, the CBSE Class 10 Mathematics textbook offers no structured mechanism to support this metacognitive process. In contrast, NEP 2020 emphasizes self-assessment and peer assessment as essential strategies for promoting meaningful learning. Without this reflective component, students may solve problems mechanically, without grasping the underlying concepts, thus limiting long-term retention and real-world applicability.

Additionally, the lack of real-life connections in many mathematical problems further limits the textbook's potential to meet NEP 2020 goals. When mathematics is taught in isolation from daily life, students struggle to appreciate its relevance, reducing both motivation and understanding. NEP 2020 stresses contextual learning and application-based pedagogy, urging curriculum developers to situate knowledge in real-world contexts. Unfortunately, most exercises in the textbook are abstract and procedural, offering little scope for application in everyday situations, such as budgeting, architecture, business, or civic problem-solving.

Thus, while the CBSE Class 10 Mathematics textbook demonstrates excellence in promoting core mathematical thinking particularly problem-solving and logical reasoning it falls short in supporting a holistic development framework as envisioned by NEP 2020 and the WHO's Life Skills model. The overwhelming focus on cognitive thinking skills, particularly problem-solving, comes at the cost of neglecting equally vital social and

emotional competencies. For the textbook to truly support holistic and inclusive education, there must be a conscious integration of a broader range of Life Skills, particularly those related to communication, self-awareness, emotional resilience and empathy. This balanced approach would not only align better with national educational priorities but also prepare students to navigate the complexities of the real world with confidence, compassion and competence.

Table 4.19. WHO Life Skills Mapping in CBSE Class-X Maths Textbook

Life Skills Mapping in CBSE Class – X Maths Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Real Numbers	18	0	0
2	Polynomials	16	0	0
3	Pair of Linear Equations in Two Variables	30	0	0
4	Quadratic Equations	25	0	0
5	Arithmetic Progressions	67	0	0
6	Triangles	49	0	0
7	Coordinate Geometry	37	0	0
8	Introduction to Trigonometry	58	0	0
9	Some Application of Trigonometry	26	0	0
10	Circles	28	0	0
11	Areas Related to Circles	26	0	0

12	Surface Areas and Volumes	28	0	0
13	Statistics	34	0	0
14	Probability	40	0	0
TOTAL		482	0	0

Table 4.19 reveals that the CBSE Class X Mathematics textbook focuses entirely on Thinking Skills with 482 identified items, while Social and Emotional Skills are completely absent from the content.

4.3.11. Analysis of CBSE Class – X Science Textbook

**Table 4.20. WHO Life Skills Component-Wise Distribution in CBSE Class – X
Science Textbook**

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	102	24	110	236
	Creative thinking skills	25	5	34	64
	Problem solving skills	43	58	39	140
	Decision making skills	3	0	2	5
	Self- Awareness skills	14	0	0	14
Social Skills	Inter-personal relationship skills	1	0	0	1
	Effective Communication skills	0	3	0	3
Coping Skills	Coping with Emotions	2	0	0	2
	Coping with Stress	2	0	1	3
	Empathy	5	0	0	5
Total		197	90	186	473

Analysis & Interpretation

CBSE Class X Science textbook is both theoretical and practical, offering a well-rounded and informative approach to scientific learning. It establishes a solid foundation in key scientific areas, including physical phenomena, chemical reactions, biological systems and environmental concerns. The textbook aims to help students grasp how scientific principles apply not only in academic contexts but also in everyday life. A total of 473 Life Skill items have been identified within the text, covering a broad range of essential Life Skills that align with the textbook's learning objectives. However, analysis of the data reveals that not all skills are evenly represented across all sections and Critical thinking skills is highly emphasized in the textbook. Despite this, the presence of a diverse set of Life Skills contributes to the overall richness of the textbook. Its ability to integrate

multiple skill sets makes it inclusive and holistic, reflecting a conscious effort to promote comprehensive development among learners through its diverse and balanced content.

Based on the table 4.15, 197 Life Skill items were identified under the Content column of the textbook. This indicates that the textbook gives substantial importance to integrating a wide range of Life Skills within its content. Such inclusion plays a significant role in fostering the reader's overall holistic development and supports the comprehensive educational goals of the text.

A total of 90 Life Skill items were identified under the Activity column, which is expected given the crucial role activities play in developing various skills among learners. However, only certain specific skills are addressed through activities, while many other Life Skills lack dedicated activity sections. Although the number of items present is adequate, there is an uneven distribution of Life Skill components across this column. This imbalance suggests that while activities contribute meaningfully, they do not consistently support the full range of Life Skills necessary for well-rounded development.

A total of 186 Life Skill items have been extracted from the Question column, which is expected since science education heavily emphasizes analytical thinking, problem-solving, and stimulating curiosity. This section effectively reflects the integration of all key Life Skills, highlighting the textbook's commitment to nurturing a deeper understanding of scientific concepts. The presence of diverse and thought-provoking questions reinforces the role of inquiry-based learning in science education.

**Table 4.21. Overall Analysis of CBSE Class – X Science Textbook With
Regard To WHO Ten Core Life Skills Components**

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	236	1	49.89%	2.36	62.15%
	Creative thinking skills	64	3	13.53%	0.21	0.48%
	Problem solving skills	140	2	29.59%	1.16	15.01%
	Decision making skills	5	5	1.05%	-0.53	-3.12%
	Self-Awareness skills	14	4	2.95%	-0.41	-1.93%
Social Skills	Inter-personal relationship skills	1	8	0.21%	-0.58	-3.74%
	Effective Communication skills	3	6	0.63%	-0.55	-3.42%
Coping Skills	Coping with Emotions	2	7	0.42%	-0.56	-3.58%
	Coping with Stress	3	6	0.63%	-0.55	-3.42%
	Empathy	5	5	1.05%	-0.53	-3.12%
Total		473		100%		100%

Analysis & Interpretation

CBSE Class X Science textbook brings together key concepts from physics, chemistry, biology and environmental science into a well-structured and unified volume. It comprises 13 essential chapters, each carefully designed to connect with students' everyday experiences and enhance their understanding of real-life scientific applications. Many of the topics build on learners' prior knowledge, helping to deepen their conceptual grasp and encourage critical thinking. The textbook is visually engaging, presented in color print to make the content more appealing. However, despite the use of color, some

images lack clarity due to over-saturation or poor quality, which can hinder comprehension. Another limitation is the relatively small number of questions provided at the end of each chapter. As the question section plays a crucial role in assessing, understanding and reinforcing learning, its limited scope may not effectively measure whether students have fully grasped the material. In terms of Life Skills, the textbook successfully integrates various components, although the representation is uneven. Thinking skills are heavily emphasized, which aligns well with the scientific nature of the subject. While some other skills are less frequently included, they still make a meaningful contribution. The presence of a broad range of Life Skills throughout the textbook supports holistic development, making the overall content both educationally balanced and comprehensive.

According to the data presented in the table 4.16, Critical Thinking stands out with 236 identified Life Skill items, which is quite satisfactory given the nature of the textbook content. Based on the z-score and variance analysis, a calculated value of 62.15% confirms that this skill holds a dominant presence throughout the textbook. This high percentage clearly indicates that Critical Thinking is heavily emphasized, receiving more focus than any other skill and playing a central role in shaping the textbook's overall approach. Critical thinking skills statements extracted from the textbook are given as an example, "Why should a magnesium ribbon be cleaned before burning in air?". This statement was taken from the textbook, page number 6.

Problem Solving Skills come next in prominence, with 140 Life Skill items identified in the textbook. The strong presence of this skill reflects its vital role in promoting the holistic development of learners and its natural alignment with the nature of science education. According to the z-score and variance data, a contribution of 15.01% has been calculated, clearly indicating that this skill holds substantial influence within the textbook. Its significant representation suggests that thoughtful attention has been given to its integration, ensuring it receives due importance in the textbook's structure without any evident bias or neglect. Problem solving skills statements extracted from the textbook

are given as an example, “Let us now look at the electronic configuration of carbon. The atomic number of carbon is 6. What would be the distribution of electrons in various shells of carbon? How many valance electrons will carbon have?”. This statement was taken from the textbook, page number 59.

Creative Thinking Skills are represented by 64 Life Skill items in the textbook, which is relatively modest in number. While this limited presence is somewhat understandable, it still contributes to the overall skill development of learners. However, based on the z-score and variance analysis, its contribution is only 0.48%, indicating that this skill has minimal influence on the textbook’s overall framework. Although creative thinking is valuable for a learner’s holistic growth, it has not been given significant emphasis in the structure and design of the textbook’s content. Creative thinking skills statements extracted from the textbook are given as an example, “If ‘hydro’ means water and ‘chemo’ refers to chemicals, what would ‘hydrotropism’ and ‘chemotropism’ mean? Can we think of examples of these kinds of directional growth movements?”. This statement was taken from the textbook, page number 107.

Self-awareness skill is represented by 14 Life Skill items in the textbook, which is relatively low compared to other skills. Despite its smaller presence, this skill holds great importance in fostering holistic development by helping learners understand themselves, reflect on their learning, make thoughtful decisions and take ownership of their academic and personal progress. According to the z-score and variance data, it contributes -1.93%, indicating a limited impact on the overall structure of the textbook. However, this does not imply its influence is entirely absent it still offers a subtle but meaningful contribution to the textbook’s framework. Self-awareness skill statements extracted from the textbook are given as an example, “Have you ever observed while bathing that foam is formed with difficulty and an insoluble substance (scum) remains after washing with water?”. This statement was taken from the textbook, page number 76.

Decision Making and Empathy skills follow next, with only 5 life skill items identified from the textbook, reflecting a mediocre presence and relatively low emphasis.

Based on the z-score and variance data, both contribute -3.12%, indicating a minimal impact on the textbook's overall structure. This highlights that these skills have been somewhat marginalized, revealing an imbalance in the distribution of life skills. While certain skills receive significant attention, others fall short, suggesting that the inclusion of life skills in the textbook is not uniformly addressed. Empathy skills statements extracted from the textbook are given as an example, "When acid rain flows into the rivers, it lowers the pH of the river water. The survival of aquatic life in such rivers becomes difficult". This statement was taken from the textbook, page number 26.

Effective Communication and Coping with Stress skills are each represented by only 3 items in the textbook, indicating a minimal presence. With a contribution of -3.42% from the z-score and variance analysis, it is evident that these skills have a very limited influence on the textbook's overall design. The data suggests that their impact is marginal, lacking the statistical weight to meaningfully shape or shift the direction of the textbook's focus. Effective communication skills statements extracted from the textbook are given as an example, "Look at fig 6.7. Identify the endocrine glands mentioned in the figure.....and discussed in the text. Consult books in the library.....teachers to find out about other glands". This statement was taken from the textbook, page number 109.

Coping with Emotions is represented by only 2 items in the textbook, which is quite low and falls below the minimal range compared to other skills. According to the z-score and variance data, it contributes -3.58%, indicating that this skill has very limited influence on the overall structure of the textbook. This reflects an uneven distribution of life skills, where some are heavily emphasized while others are noticeably overlooked or underrepresented. Coping with emotions skills statements extracted from the textbook are given as an example, "Because of reckless female foeticides, child sex ratio is declining at an alarming rate in some sections of our society, although prenatal sex determination has been prohibited by law". This statement was taken from the textbook, page number 125.

Inter-personal Relationship Skill is represented by only a single item in the textbook, indicating a very minimal influence. Its presence appears more like a formality to ensure all life skills are mentioned, rather than a meaningful contribution to the content. The z-score and variance value of -3.74% further confirms that this skill holds negligible significance in shaping the structure of the textbook. Overall, its impact is marginal, suggesting it was not a major focus during the development of the material. Inter-personal relationship skills statements extracted from the textbook are given as an example, “This activity needs the teacher’s assistance. It would be better if students wear suitable eyeglasses.....hold it with a pair of tongs. Burn it using a spirit lamp or burner and collect.....What do you observe?”. This statement was taken from the textbook, page number 1.

4.3.12. Conclusion

CBSE Class X Science textbook presents a thoughtful blend of theory and practice, integrating major scientific disciplines such as physics, chemistry, biology and environmental science into a coherent and accessible resource. Structured around 13 essential chapters, it aligns well with learners' daily experiences and seeks to enhance their conceptual understanding through both content and activities. The use of real-life contexts helps bridge the gap between classroom learning and real-world application, which is a key element of modern pedagogy. The textbook also attempts to incorporate Life Skills, which are essential for shaping students into competent, thoughtful and responsible individuals.

A comprehensive analysis of the textbook reveals a total of 473 Life Skill items distributed across three major columns Content, Activities and Questions. These elements offer multiple entry points for skill development. The Content column contains the highest number of items (197), followed by the Question section (186), and Activities (90). This distribution suggests a strong leaning towards theoretical inclusion of skills rather than hands-on or experiential methods. Despite its strengths, the analysis points to an

imbalance in how various Life Skills are represented, with some receiving substantial attention while others remain marginally included or almost absent.

Thinking Skills dominate the textbook, particularly Critical Thinking and Problem Solving. These two skills account for most Life Skill items identified, with Critical Thinking alone contributing 236 entries and a remarkable 62.15% to variance. This high number is expected, given that science inherently involves analysis, inquiry, evaluation and reflection all of which are integral to critical thinking. Problem Solving skills follow with 140 items, making up 15.01% of the variance. This skill also aligns well with the scientific process, where hypotheses are tested, problems are examined and solutions are derived logically. Creative Thinking is moderately represented with 64 items, showing some presence but much less influence (0.48% contribution to variance). This suggests that while scientific creativity is acknowledged, it is not heavily emphasized.

However, a closer look at other Life Skills reveals significant gaps. Self-Awareness skills, with just 14 items and a -1.93% contribution to variance, hold limited weight in the textbook. Yet, these skills are crucial in helping learners reflect on their abilities, manage academic stress, and take ownership of their learning. Decision Making and Empathy skills are even less represented, with only 5 items each, both contributing -3.12%. Effective Communication and Coping with Stress, with 3 items each, show similarly marginal influence (-3.42%). Coping with Emotions (2 items) and Inter-personal Relationship skills (1 item) are near absent, contributing -3.58% and -3.74% respectively. This uneven distribution raises concerns about the comprehensiveness of the textbook's life skill integration. NEP 2020 advocates for a competency-based curriculum that nurtures not only cognitive development but also social, emotional and ethical competencies. In this light, the overwhelming focus on Critical Thinking and Problem Solving in the CBSE Class X Science textbook aligns well with NEP 2020's emphasis on conceptual understanding and inquiry-driven learning. These skills prepare students for analytical reasoning and foster scientific temper, which are central to the NEP's vision of 21st-century education.

Nevertheless, NEP 2020 also stresses the importance of socio-emotional learning, including Self-Awareness, Empathy, Communication and Interpersonal relationship skills areas that are underrepresented in the textbook. The lack of substantial content on these skills indicates a partial alignment with NEP 2020's holistic development goals. For instance, Empathy, a foundational life skill in NEP 2020's framework for humanistic education, is barely touched upon. Similarly, Self-Awareness, which is crucial for mental health and emotional well-being, receives little emphasis. These skills help learners develop emotional intelligence, resilience and ethical reasoning all essential in today's complex world. Moreover, Effective Communication and Interpersonal Relationship skills, which are pivotal in collaborative learning environments, receive minimal representation. NEP 2020 promotes experiential and discussion-based learning where students are encouraged to express, collaborate, and engage in group tasks. However, the textbook's design, with limited activities and interaction-based tasks, restricts the development of these social skills. Science as a subject offers rich opportunities for collaboration be it through experiments, group discussions, or project work yet the textbook underutilizes these pedagogical strategies. This limits students' ability to develop teamwork, leadership and communication capabilities essential for personal and professional success.

Coping Skills, Coping with Emotions and Coping with Stress are especially crucial for adolescent learners who often face emotional and academic pressure. NEP 2020 calls for integrating mental health education into mainstream curricula to support students' emotional well-being. Unfortunately, CBSE Class X Science textbook does not significantly contribute in this area. With only 2 and 3 items identified respectively for Coping with Emotions and Stress, the textbook falls short of supporting students in managing academic challenges or emotional turmoil. Addressing these skills through reflective questions, value-based discussions and real-life scenarios could enhance the textbook's emotional relevance.

Despite these gaps, it is noteworthy that the textbook attempts to present science as a human endeavor by occasionally touching upon ethical concerns, environmental responsibility and health awareness. Chapters like "Our Environment" and "Life Processes" provide some context for self-reflection and responsible decision-making, which aligns with NEP 2020's aim of education for sustainable development and global citizenship. These chapters offer an opportunity to integrate Life Skills more meaningfully by emphasizing values such as empathy, conservation and critical inquiry into socio-scientific issues.

Thus, CBSE Class X Science textbook successfully builds a strong foundation in scientific knowledge while incorporating a range of Life Skills. However, the representation of these skills is significantly skewed, with a heavy focus on Thinking Skills and limited attention to Social and Coping Skills. While the dominance of Critical Thinking and Problem Solving is justifiable given the subject matter, a more balanced integration of other Life Skills would align better with NEP 2020's holistic and competency-based vision. To truly fulfill its educational potential, the textbook should broaden its scope to include more activities, questions, and content that foster emotional intelligence, ethical reasoning, effective communication, and collaboration. Only then can it become a truly inclusive and transformative educational tool, preparing students not just for exams but for life.

Table 4.22. WHO Life Skills Mapping in CBSE Class-X Science Textbook

Life Skills Mapping in CBSE Class – X Science Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Chemical Reactions and Equations	41	1	0
2	Acids, Bases and Salts	50	0	1

3	Metals and Non-metals	42	1	0
4	Carbon and its Compound	41	0	0
5	Life Processes	34	0	0
6	Control and Coordination	35	1	2
7	How Do Organisms Reproduce?	34	0	3
8	Heredity	19	0	0
9	Light – Reflection and Refraction	47	1	0
10	The Human Eye and the Colourful World	19	0	1
11	Electricity	44	0	0
12	Magnetic Effects of Electric Current	26	0	0
13	Our Environment	27	0	3
TOTAL		459	4	10

From the table 4.22, it is clear that the textbook give preference to Thinking skills with 459 life skills identified from the textbook. This is followed by Emotional skills with 10 life skills items followed by Social skills with 4 life skills items identified from the textbook.

4.4. Objective no. 3 : Analyzing Mizoram Board of School Education (MBSE) Syllabus with Reference to WHO Life Skills Components

For the analysis of secondary school textbooks prescribed by the MBSE board, the researcher utilized the ten core Life Skills components recommended by the World Health Organization (WHO). The textbooks were systematically examined to identify the intended outcomes related to life skills. A detailed account of the analysis, highlighting the presence and exploration of different life skill components within the textbook is presented in Tables given below which comprehensively display all the relevant findings and data in an organized manner.

4.4.1. Analysis of MBSE Class – IX Social Science Textbook

Table 4.23. WHO Life Skills Component-Wise Distribution in MBSE Class – IX Social Science Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	11	2	207	220
	Creative thinking skills	13	8	30	51
	Problem solving skills	62	7	2	71
	Decision making skills	13	0	0	13
	Self- Awareness skills	2	0	0	2
Social Skills	Inter-personal relationship skills	15	0	0	15
	Effective Communication skills	5	1	0	6
Coping Skills	Coping with Emotions	12	0	0	12
	Coping with Stress	64	0	0	64
	Empathy	74	0	0	74
Total		271	18	239	528

Analysis & Interpretation

MBSE class – IX Social Science textbook is an informative, detail and lengthy book which gives a clear presentation of the content by inculcating simple vocabulary for the reader. This textbook is a theoretical yet including multiple activities which can enhance the overall mental growth and develop metacognition of the learner beyond their limit. This textbook is divided into five sections like History, Geography, Political Science, Economics and Disaster Management by including all the relevant chapters and content under the given section. Analysis of the textbook exposed that a total of 528 Life Skills items are extracted and identified while the analysis was administered. Besides, the textbook contains all the different WHO ten core Life Skills components without leaving any skills behind which deeply expressed that curriculum planner emphasized and consider Life Skills as the top core priority for the building block of this textbook.

Prior to table 4.23, a total of 271 items have been identified from the Content section of the textbook representing a cumulative count of all the various skills embedded within it. This substantial number indicates that the textbook incorporates a diverse range of Life Skills throughout its explanatory content. The presence of these skills in the core material highlight their importance in contributing to the overall educational objectives. It clearly demonstrates that each skills regardless of its type plays an important role in shaping the intended learning outcomes and holistic development of students.

Furthermore, a total of 239 Life Skills items have been identified from the Question section which is notably high. The integration of these items into the exercises underscores the importance of embedding diverse Life Skills within assessment components. This approach supports the development of critical and reflective thinking among learners encouraging them to apply concepts meaningfully. Including Life Skills in this section not only reinforces academic learning but also nurtures essential cognitive abilities helping students at this developmental stage to build stronger problem solving and decision making skills for real life situations.

Therefore, only 18 Life Skills items have been identified from the Activity section which is relatively low and considered unsatisfactory. Given that activity based content is crucial for fostering learners' creativity, awareness and practical understanding. Thus, its limited presence reflects a missed opportunity. If such content be increase and add more, this would greatly contribute to engaging students in experiential learning and promoting the development of essential skills beyond theoretical knowledge.

Table 4.24. Overall Analysis of MBSE Class – IX Social Science Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	220	1	41.66%	2.56	72.96%
	Creative thinking skills	51	5	9.65%	-0.02	-0.008%
	Problem solving skills	71	3	13.44%	0.27	0.86%
	Decision making skills	13	7	2.46%	-0.61	-4.13%
	Self-Awareness skills	2	10	0.37%	-0.77	-7.98%
Social Skills	Inter-personal relationship skills	15	6	2.84%	-0.57	-3.72%
	Effective Communication skills	6	9	1.13%	-0.71	-5.71%
Coping Skills	Coping with Emotions	12	8	2.27%	-0.62	-4.34%
	Coping with Stress	64	4	12.12%	0.17	0.32%
	Empathy	74	2	14.01%	0.32	1.17%
Total		528		100%		100%

Analysis & Interpretation

From the table 4.24 given above, it is clearly clarified that Critical Thinking Skills ranks first with a frequency of 220 and a substantial contribution to variance at 72.96%. This indicates a strong focus on developing students' analytical and evaluative capabilities, showing that this skill dominates the Life Skills integration in the textbook. Critical thinking skills statements extracted from the textbook are given as an example, "Describe the extent to which the role of the State contributed to the changes in agricultural production in England, the USA and India". This statement was taken from the textbook, page number 84.

Empathy surprisingly ranks second with 74 identified items and a modest contribution to variance of 1.17%. Though it is a positive sign that empathy is given attention, its contribution remains significantly lower compared to critical thinking skill, reflecting an imbalance in prioritization. Empathy skills statements extracted from the textbook are given as an example, "In Poland, thousands of Jews were killed". This statement was taken from the textbook, page number 45.

Problem Solving Skills followed with 71 items and a contribution to variance of 0.86%. This is a relatively balanced figure, suggesting the textbook includes activities and content that encourage learners to apply logical reasoning and solutions-based thinking, though still underrepresented in contrast to other skills. Problem solving skills statements extracted from the textbook are given as an example, "Having sense the revolutionary mood, he also started mobilizing royal troops to use force against the Assembly if the situation went out of hand". This statement was taken from the textbook, page number 8.

Coping with Stress takes the fourth rank with 64 items and a positive contribution of 0.32%, indicating some attention to mental well-being and stress management. However, it remains marginal in its impact. Coping with stress skills statements extracted from the textbook are given as an example, "Russia suffered heavy losses between 1914

and 1916 and Russia's participation in the war had serious consequences for the people of Russia". This statement was taken from the textbook, page number 27.

Creative Thinking Skills ranked fifth with 51 items, shows an almost neutral contribution to variance at -0.008%, meaning that while the frequency seems decent, the actual emphasis and depth of content related to creativity somewhat seems lacking. Creative thinking skills statements extracted from the textbook are given as an example, "The Nazi Party also used a variety of media such as visual images, films, radio, posters, catchy slogans, leaflets, children's books, textbooks to circulate its ideology". This statement was taken from the textbook, page number 44.

Interpersonal Relationship Skills follow with 15 items being identified, but a negative contribution of -3.72% points to minimal emphasis on collaborative and relational skills. The negative contribution to variance shows that Interpersonal Relationship Skills are comparatively neglected and poorly distributed, revealing a lack of meaningful integration across the textbook, even if their rank by frequency seems mid-level. Interpersonal relationship skills statements extracted from the textbook are given as an example, "Together, these two associations launched an active campaign for dress reform apart from their principal concern with women's political empowerment". This statement was taken from the textbook, page number 102.

Decision Making Skills follow with only 13 items and a highly negative contribution of -4.13%, revealing a gap in guiding students toward thoughtful and informed decision-making processes. Life Skills like Decision Making require deliberate inclusion through scenarios, dilemmas and open-ended problems that help students weigh options and consequences. The limited number of items suggests these elements are either missing or too shallow to make a meaningful curricular impact. Decision making skills statements extracted from the textbook are given as an example, "They supported Bloomer's ideas on fashion that it should be practical and in accordance with the requirements of women". This statement was taken from the textbook, page number 102.

Coping with Emotions comes next with 12 items and a contribution of -4.34%, also reflects insufficient integration, especially given its importance in emotional intelligence and adolescent development. This reveals a missed opportunity in the way the textbook is framed. Rather than leveraging the content to help learners understand and manage their emotions whether in response to historical oppression, social conflict or ethical dilemmas; the textbook appears to focus more on cognitive understanding and factual recall. Coping with emotions skills statements extracted from the textbook are given as an example, “The Potsdam Conference also decided to bring the nazi war criminals to trial. This international trial was held at Nuremberg, Germany at which twenty-one leading Nazis were tried and twelve were sentence to death”. This statement was taken from the textbook, page number 46.

Communication Skills come next with just 6 items identified and a negative variance of -5.71%, indicating a serious underrepresentation of communication competency in the textbook. This reveals a clear imbalance and suggests that despite Social Science being an ideal medium for practicing communication, the textbook fails to actively integrate this skill in its design. Communication skills statements extracted from the textbook are given as an example, “For instance, farmers of the village interact with other sectors of the economy for selling surplus agricultural produce”. This statement was taken from the textbook, page number 255.

Self-Awareness Skills followed with only 2 items identified and comes with a negative contribution to variance at -7.98%. This shows a critical omission of reflective and self-understanding components essential for students’ personal growth. Self awareness skills statements extracted from the textbook are given as an example, “Thus, every party promises to do something for the voters once it comes to power. These promises made by political parties are aimed to make people aware of their policies and programmes”. This statement was taken from the textbook, page number 221.

4.4.2. Conclusion

MBSE Class IX Social Science textbook presents itself as a content-rich, detailed, and well-organized resource that effectively communicates complex topics in a simplified manner through accessible vocabulary. It covers five major areas like History, Geography, Political Science, Economics and Disaster Management each dealing with key themes essential to understanding society, governance, environment and global interdependence. The book is primarily theoretical but includes occasional activities that aim to stimulate mental growth and enhance metacognition in learners, helping them think critically about real-world issues.

The Life Skills analysis of the textbook revealed a total of 528 items identified across all chapters, reflecting a strong presence of WHO's ten core Life Skills components. This comprehensive representation shows a conscious effort by the curriculum designers to include not only academic content but also psychosocial skills that contribute to learners' overall development. The skills are distributed across the textbook's three main structural sections 271 items from the Content, 239 from the Questions and only 18 from the Activities. The high presence of Life Skills within the content and questions indicates that the textbook supports cognitive development. However, the lack of activity-based Life Skills demonstrates a weakness in fostering experiential and hands-on learning, which is critical for deeper Life Skill acquisition.

In terms of frequency and impact, Critical Thinking Skills clearly dominate the Life Skills integration with 220 items and a 72.96% contribution to variance. This heavy emphasis demonstrates the textbook's alignment with academic expectations that require learners to analyze, evaluate and draw reasoned conclusions. Following this, Empathy ranks second with 74 items, although its contribution is modest (1.17%), indicating it is present but not fully emphasized. Problem Solving and Coping with Stress show moderate inclusion, reflecting some effort to develop resilience and logical reasoning. However, Creative Thinking, Communication, Decision Making, Coping with Emotions, Self-

Awareness and Interpersonal Skills are either weakly represented or show negative contributions to variance, pointing to a notable imbalance in skill prioritization.

This imbalance becomes particularly significant when viewed through the lens of NEP 2020, which emphasizes holistic and multi-dimensional learning. NEP promotes the integration of cognitive, emotional and social skills into the curriculum to prepare learners not just for exams, but for life. For example, the textbook's strong emphasis on Critical Thinking and Problem Solving reflects the policy's core goals of nurturing inquiry, curiosity and logical reasoning. These skills are essential in developing self-directed learners capable of understanding and solving real-world challenges; an objective directly encouraged by NEP.

However, skills like Self-Awareness and Coping with Emotions, which are foundational to emotional intelligence and mental well-being are severely underrepresented. NEP 2020 specifically highlights the importance of socio-emotional learning, encouraging education systems to provide opportunities for students to reflect, understand themselves and manage their feelings. The presence of only two Self-Awareness items and twelve related to Coping with Emotions indicates that this aspect of development is largely overlooked. Similarly, Communication Skills though essential for democratic participation and collaborative learning are barely included despite NEP's insistence on promoting speaking, listening and interpersonal dialogue in the classroom.

The neglect of Decision Making and Interpersonal Relationship Skills also runs counter to NEP's vision of preparing students for citizenship and community life. The policy advocates for a shift toward competency-based education that values Life Skills on par with academic knowledge. Decision making and relational understanding enable learners to engage responsibly in their personal and civic lives. Their minimal presence in the textbook suggests that these vital capabilities are not given adequate space in the teaching-learning process, which diminishes the book's potential to foster responsible and ethical citizens.

Thus, while the MBSE Class IX Social Science textbook makes notable strides in integrating certain cognitive Life Skills especially critical thinking and problem solving, it falls short of offering a balanced, NEP-aligned Life Skills education. Emotional and Social competencies remain marginalized in both content and structure. To fulfill the goals of NEP 2020 and to genuinely promote holistic education, the textbook must incorporate more reflective, interpersonal and activity-based content that engages learners on emotional and practical levels. Only then can it support students in becoming thoughtful, empathetic and resilient individuals ready to meet the complexities of the real world.

Table 4.25. WHO Life Skills Mapping in MBSE Class-IX Social Science Textbook

Life Skills Mapping in MBSE Class – IX Social Science Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	The French Revolution	14	1	10
2	The Russian Revolution	15	0	14
3	Rise of Nazism	17	0	12
4	Pastoralism in the Modern World	19	2	8
5	Forest Society and Colonialism	11	1	5
6	Peasants and Farmers	15	0	11
7	Sports and Politics : The Story of Cricket	13	1	2
8	Clothes and Culture	21	1	6
9	India – Size and Location	10	2	0

10	India – Physical Features	14	0	3
11	Drainage	17	0	2
12	Climate of India	16	0	2
13	Vegetation and Wildlife in India	12	0	1
14	Population	15	0	4
15	Democracy : Significance and its Relevance ¹	28	1	10
16	Designing of Democracy in India	15	1	2
17	Electoral Politics in India ¹	16	1	2
18	Institutions of Parliamentary Democracy	18	1	1
19	Rights in a Democracy	18	1	6
20	The Story of Village Economy	6	4	3
21	Human Resource	13	1	4
22	Poverty as a Challenge Facing India	16	0	13
23	Food Security in India : Sources of Foodgrains	0	3	14
24	Public Utility	5	0	3
25	Disaster Management	10	0	10

26	Road Safety	3	0	2
TOTAL		357	21	150

Table 4.25 clearly shows that the textbook places the highest emphasis on Thinking skills, with 357 Life Skills items identified. This is followed by Emotional skills, which account for 150 items, while Social skills receive minimal focus, with only 2 items included in the textbook.

4.4.3. Analysis of MBSE Class – IX Maths Textbook

Table 4.26. WHO Life Skills Component-Wise Distribution in MBSE Class – IX Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	80	2	24	106
	Creative thinking skills	11	0	19	30
	Problem solving skills	237	0	471	708
	Decision making skills	0	0	0	0
	Self- Awareness skills	0	0	0	0
Social Skills	Inter-personal relationship skills	0	0	0	0
	Effective Communication skills	0	0	0	0
Coping Skills	Coping with Emotions	0	0	0	0
	Coping with Stress	0	0	0	0
	Empathy	0	0	0	0
Total		328	2	514	844

Analysis & Interpretation

MBSE Class IX Mathematics textbook is a detailed and conceptually rich resource that presents theoretical content through clear examples, simplified explanations and extensive exercise sections, making it a well-rounded learning tool. It is presented in a bilingual format, aligning with one of the core objectives of the National Education Policy

(NEP) 2020 to promote multilingual learning in schools. A total of 844 Life Skills instances have been identified throughout the textbook, reflecting a strong emphasis on specific skills such as critical thinking, creative thinking and problem-solving. These identified skills fall entirely within the domain of Thinking Skills, indicating a focused yet limited integration of Life Skills, without representation from other domains like social or coping skills.

The table 4.26 above clearly illustrates how the MBSE Class IX Mathematics textbook aligns with the WHO's ten core Life Skills components across different sections. A total of 328 items have been identified under the Content column, which is a significant number. However, a major limitation is evident in the narrow focus of the identified skills. These items are confined solely to the Thinking Skills domain, while completely overlooking other essential Life Skill areas like social and coping skills, resulting in an imbalanced Life Skills representation.

Only two items have been identified under the Activity-based column, which is both surprising and disappointing, considering the crucial role activities it play in the mathematics curriculum. Activities serve as the foundation for fostering active engagement, exploration and the construction of knowledge among students. The limited presence of such components indicates a missed opportunity to enhance student learning. Expanding the activity-based sections with clearer guidance and purposeful integration into the content could significantly improve learning outcomes and promote deeper understanding in future editions of the textbook.

A total of 514 Life Skills items have been identified under the Question section, making it the most significant contributor among all columns in the textbook. This large number aligns well with the nature of mathematics, a subject fundamentally centered on inquiry, problem-solving and continuous questioning. The strong presence of exercises and questions in the textbook supports the development of Thinking Skills, which are essential for deepening learners' understanding. Such an emphasis on questioning reflects

the subject's core purpose and reinforces the textbook's effectiveness in promoting cognitive growth among students.

Table 4.27. Overall Analysis of MBSE Class – IX Maths Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	106	2	12.55%	-0.47	0.11%
	Creative thinking skills	30	3	3.55%	-0.67	-0.66%
	Problem solving skills	708	1	83.88%	1.14	87.94%
	Decision making skills	0	4	0	-0.38	-1.61%
	Self-Awareness skills	0	4	0	-0.38	-1.61%
Social Skills	Inter-personal relationship skills	0	4	0	-0.38	-1.61%
	Effective Communication skills	0	4	0	-0.38	-1.61%
Coping Skills	Coping with Emotions	0	4	0	-0.38	-1.61%
	Coping with Stress	0	4	0	-0.38	-1.61%
	Empathy	0	4	0	-0.38	-1.61%
Total		844		100%		100%

Analysis & Interpretation

MBSE Class IX Mathematics textbook is a well-structured and comprehensive resource, comprising 23 chapters grouped into eight major units. It is thoughtfully designed to suit the cognitive level of secondary school students, beginning with foundational concepts and gradually progressing to more complex topics. This

progression supports age-appropriate learning and helps students build a strong conceptual understanding. The textbook includes all essential content needed to guide young learners through mathematical thinking and application. Its structure and content aim to nurture and enhance the overall Thinking Skills of students, encouraging logical reasoning, problem-solving abilities and mental development in a systematic manner.

The analysis of the table 4.27 clearly shows that Problem Solving Skills dominate with 708 instances identified from the textbook. This indicates that the textbook heavily emphasizes skills that support students' cognitive development and metacognitive abilities applicable to real-life situations. Moreover, the variance column reflects a high percentage of 87.94%, underscoring that Problem Solving Skills are excessively prioritized compared to other Life Skills. This overrepresentation reveals an imbalance in the distribution of Life Skills within the textbook, suggesting a lack of fairness and proportion in how different skill areas are incorporated throughout the content. Problem solving skills statements extracted from the textbook are given as an example, "Tlana went to market to purchase bats and balls. The cost of one bat is Rs 500 and cost of one ball is Rs 50. If he spent Rs 1750 on 8 items, how many bats and balls he purchased?". This statement was taken from the textbook, page number 172.

Critical Thinking Skills rank second with 106 items identified in the textbook analysis significantly fewer than the number associated with other skills. Given the textbook's extensive length and the number of chapters it contains, this limited representation is concerning. Critical thinking skill is equally important as other Life Skills and plays a vital role in fostering students' intellectual development and mental growth. However, the variance column reveals a very low percentage of just 0.11%, indicating that this skill holds minimal influence within the textbook. This imbalance is surprising and suggests that true holistic development of learners remains unaddressed. Critical thinking skills statements extracted from the textbook are given as an example, "Is there any relation between the areas of two parallelogram on the same base and

between the same parallels?”. This statement was taken from the textbook, page number 262.

Creative Thinking Skills appear third in the analysis with only 30 instances identified throughout the textbook, indicating that they receive minimal emphasis. Despite their limited presence, these skills are crucial for learners as they support and enhance the functioning of other Life Skills due to their interconnected nature. The variance column further confirms their marginal role, showing a percentage of -0.66%, which highlights their statistically insignificant impact within the overall skill distribution. This suggests that Creative Thinking is largely overlooked in the textbook, despite its essential role in fostering innovation and flexible problem-solving in students. Creative thinking skills statements extracted from the textbook are given as an example, “Give six examples of data that you can collect from your day to day life”. This statement was taken from the textbook, page number 401.

Notably, essential Life Skills such as Decision Making, Self-Awareness, Interpersonal Relationships, Effective Communication, Coping with Emotions, Coping with stress and Empathy are entirely absent from the textbook with no items identified. This lack of representation highlights a concerning imbalance in the curriculum, indicating that the textbook developers placed disproportionate emphasis on certain cognitive skills while neglecting others that are foundational to emotional and social development. These omitted skills are vital as they support and enhance the functioning of other Life Skills due to their interrelated nature. The variance column further confirms this gap, showing a negative score of -1.61%, reflecting their complete lack of statistical significance in the textbook. This omission reveals a serious flaw in promoting holistic education.

4.4.4. Conclusion

MBSE Class IX Mathematics textbook is a rich and well-organized academic resource aimed at building a strong foundation in mathematical concepts for secondary-level students. It covers 23 chapters divided into eight broad units, making it comprehensive in structure and content. The textbook gradually introduces learners to increasingly complex ideas, helping them transition from basic mathematical knowledge to more advanced problem-solving abilities. With its bilingual presentation, it aligns with the multilingual approach advocated by the National Education Policy (NEP) 2020. Moreover, its simple explanations, illustrative examples and large number of exercises make it an accessible and engaging resource. However, despite these strengths, the textbook exhibits a limited integration of WHO's ten core Life Skills, highlighting the need for a more balanced and inclusive curriculum design.

A total of 844 Life Skill-related instances have been identified in the textbook, primarily falling under the Thinking Skills domain. The data reveals that Problem Solving Skills are the most emphasized, with 708 items, followed by Critical Thinking Skills (106 items) and Creative Thinking Skills (30 items). These findings suggest a curriculum strongly focused on cognitive development. While this emphasis is valuable in developing analytical thinking and mental discipline, it inadvertently overshadows other crucial life skills such as social and coping skills. This imbalance raises concerns about the holistic development of learners, which is one of the core objectives outlined in NEP 2020.

The textbook's narrow Life Skills representation is further illustrated by the complete absence of skills such as Decision Making, Self-Awareness, Interpersonal Relationships, Effective Communication, Coping with Emotions, Coping with Stress and Empathy. These Life Skills are essential for helping students navigate real-life challenges, build emotional resilience and foster healthy social relationships. Their absence suggests that the textbook was designed with a limited vision of student development, overly favoring mathematical problem-solving at the cost of nurturing emotional intelligence and interpersonal growth. The variance scores reinforce this point, showing disproportionately

high emphasis on problem-solving (87.94%) and significantly low or negative influence for other skills, which raises concerns about equity in skill integration.

NEP 2020 promotes a holistic, learner-centered approach to education, emphasizing the development of 21st-century skills including critical thinking, creativity, communication, collaboration and emotional intelligence. In this context, the overemphasis on Problem Solving Skills in the textbook aligns with NEP 2020's goal of nurturing analytical and logical reasoning abilities. Problem-solving is crucial for building cognitive flexibility and decision-making competence in mathematics and real-life contexts. However, NEP 2020 also stresses the importance of experiential learning and the interconnectedness of cognitive and emotional skills, which are largely missing from this textbook. To fully align with the policy's vision, there needs to be a more even distribution of Life Skills across all domains - thinking, social and emotional.

Critical Thinking Skills, although underrepresented in the textbook, are directly supported by NEP 2020, which advocates inquiry-based, discussion-oriented and analytical approaches to learning. These skills foster the learner's ability to question, evaluate evidence and draw reasoned conclusions; abilities essential not just in mathematics but across subjects. However, with only 106 instances, the textbook falls short of NEP 2020's expectations. For effective alignment, it should incorporate more open-ended questions, reflective activities and real-world problem contexts that challenge students to think beyond procedural knowledge.

Creative Thinking Skills are also a vital component of NEP 2020's vision of transforming students into innovative thinkers capable of approaching problems from multiple perspectives. Despite their importance, only 30 instances were found in the textbook, indicating a missed opportunity to foster imagination, original thinking and divergent problem-solving. In mathematics, creativity can be nurtured through exploratory tasks, project-based learning and encouraging students to find multiple methods to solve a problem. Expanding such components would allow the textbook to better reflect NEP 2020's focus on creativity and innovation in education.

The complete omission of Social and Coping Skills such as Decision Making, Self-Awareness, Empathy and Coping with Stress stands in stark contrast to NEP 2020's holistic vision. The policy stresses socio-emotional learning as equally important as cognitive development. These skills help students manage their emotions, make responsible decisions, communicate effectively and build positive relationships. Integrating such Life Skills into the mathematics curriculum could involve activities that promote collaborative learning, peer discussions and real-life applications that require ethical reasoning and emotional insight. Their absence in the textbook reflects a significant deviation from NEP 2020's goals and suggests the need for immediate curricular revision.

To ensure full alignment with NEP 2020, it is imperative that future editions of the MBSE Class IX Mathematics textbook adopt a more balanced approach to Life Skills integration. This involves embedding all three domains of WHO's core Life Skills - thinking, social and coping skills within the textbook. Activity-based learning must be prioritized, moving beyond mere content delivery toward active engagement and real-world applicability. Incorporating a wider variety of Life Skills through collaborative tasks, reflective exercises, interdisciplinary linkage and emotional literacy tools would create a more dynamic and inclusive learning environment.

Thus, while the MBSE Class IX Mathematics textbook effectively supports cognitive development through its strong emphasis on Problem Solving and basic Thinking Skills, it lacks a holistic approach to Life Skill education. Aligning the textbook with NEP 2020 requires a thoughtful redesign that broadens the scope to include social and emotional skills. By doing so, the textbook can evolve from being a traditional academic resource to a comprehensive educational tool that truly prepares learners for the complex and interconnected challenges of the modern world.

Table 4.28. WHO Life Skills Mapping in MBSE Class-IX Mathematics Textbook

Life Skills Mapping in MBSE Class – IX Mathematics Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Real Numbers	55	0	0
2	Sets	20	0	0
3	Compound Interest, Growth and Depreciation	38	0	0
4	Ratio and Proportion	56	0	0
5	Cost of Living Index	10	0	0
6	Sales Tax	16	0	0
7	Polynomials	83	0	0
8	G.C.D and L.C.M of Polynomials	40	0	0
9	Linear Equations in Two Variables	38	0	0
10	Lines and Angles	36	0	0
11	Congruence of Triangle	43	0	0
12	Properties of a Triangle	29	0	0
13	Quadrilaterals and Parallelograms	39	0	0
14	Area	37	0	0
15	Constructions	20	0	0

16	Circles	24	0	0
17	Coordinate Geometry	14	0	0
18	Trigonometric Ratios	45	0	0
19	Trigonometric Identities	27	0	0
20	Area of a Triangle and a Quadrilateral	25	0	0
21	Surface Areas and Volumes	76	0	0
22	Statistics	54	0	0
23	Probability	19	0	0
TOTAL		844	0	0

Table 4.28 clearly indicates that the textbook places major emphasis on Thinking skills, with 844 Life Skills items identified, while Social and Emotional skills receive very limited representation.

4.4.5. Analysis of MBSE Class – IX Science Textbook

**Table 4.29. WHO Life Skills Component-Wise Distribution in MBSE Class – IX
Science Textbook**

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	40	7	297	344
	Creative thinking skills	15	0	15	30
	Problem solving skills	82	24	113	219
	Decision making skills	0	0	1	1
	Self- Awareness skills	0	0	0	0
Social Skills	Inter-personal relationship skills	0	0	0	0
	Effective Communication skills	0	0	0	0
Coping Skills	Coping with Emotions	0	0	0	0
	Coping with Stress	7	0	0	7
	Empathy	3	0	0	3
Total		147	31	426	604

Analysis & Interpretation

MBSE Class IX Science textbook is primarily conceptual and theoretical encompassing a variety of essential chapters aimed at fostering students' mental and emotional development. A total of 604 Life Skills items have been identified throughout the book, indicating a significant presence of skill-based learning. However, there is a noticeable imbalance in the representation of these skills as only certain Life Skills are prominently featured by strongly emphasizing Thinking Skills, while other skills which are equally important for the holistic growth of learners are underrepresented or entirely overlooked. This lack of uniform distribution suggests a need for a more inclusive and balanced integration of all core Life Skills in the curriculum.

The table 4.29 above reveals that 147 Life Skills items have been identified under the Content column of the textbook. This indicates that the textbook highlights only a

limited range of specific Life Skills, while overlooking several others that are essential for fostering holistic development in learners. The content does not adequately promote a balanced or comprehensive integration of diverse Life Skills across chapters. Moreover, some of the identified skills appear in very low numbers, reducing their overall significance and impact within the textbook. This selective emphasis suggests a gap in addressing the broader educational goals of Life Skills education.

A total of 31 Life Skills items have been identified under the Activity column, which is relatively low considering the vital role activities play in promoting experiential learning, practical understanding and active engagement within the classroom. Activities serve as an effective means to connect theoretical knowledge with real-life applications, fostering deeper learning. Therefore, it is important that more activities be incorporated into the textbook, especially those aligned with relevant chapters and topics. These should be designed to integrate various Life Skills, ensuring a more dynamic and skill-enriched learning experience for students.

A total of 426 Life Skills items have been identified under the Question column, making it the section with the highest number of entries. This significant presence highlights the strong emphasis placed on inquiry-based learning and critical engagement with the content. Questions serve as a key tool in developing students' cognitive abilities, encouraging them to think deeply, analyze and apply concepts effectively. The high number of items in this section reflects the textbook's focus on promoting Thinking Skills, particularly through structured exercises and problem-solving tasks across various chapters and topics.

Table 4.30. Overall Analysis of MBSE Class – IX Science Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	344	1	56.95%	2.35	61.50%
	Creative thinking skills	30	3	4.96%	-0.25	-0.71%
	Problem solving skills	219	2	36.25%	1.31	19.23%
	Decision making skills	1	6	0.16%	-0.49	-2.69%
	Self- Awareness skills	0	0	0	-0.50	-2.78%
Social Skills	Inter-personal relationship skills	0	0	0	-0.50	-2.78%
	Effective Communication skills	0	0	0	-0.50	-2.78%
Coping Skills	Coping with Emotions	0	0	0	-0.50	-2.78%
	Coping with Stress	7	4	1.15%	-0.44	-2.18%
	Empathy	3	5	0.49%	-0.47	-2.51%
Total		604		100%		100%

Analysis & Interpretation

MBSE Class IX Science textbook is both conceptual and theoretical while also offering practical insights. It provides students with a strong foundation to understand and internalize scientific concepts more effectively. Comprising 15 chapters, the book covers a wide range of topics from Physics, Chemistry, Biology and Environmental Education. This integrated approach is designed to broaden students' understanding of the scientific world and foster interest in science education. The content aims to make learning more engaging and meaningful by connecting theoretical knowledge with real-life applications.

The data from the table 4.30 clearly indicate that Critical Thinking Skill is the most dominant, with 344 instances identified in the textbook. This highlights a strong emphasis on thinking abilities suggesting that the textbook prioritizes cognitive development. However, it also reveals a lack of balance, as other essential Life Skills are significantly underrepresented. Integrating a wider range of skills would help students develop holistically, enabling them to apply knowledge in real-life situations. The variance percentage of 61.50% further reinforces the textbook's strong bias towards Critical Thinking, showing that it heavily leans on this particular skill while giving less attention to other equally important Life Skills needed for overall growth. Critical thinking skills statements extracted from the textbook are given as an example, "Does a person standing at rest on a moving bus possess kinetic energy?". This statement was taken from the textbook, page number 81.

Problem Solving Skills rank second, with 219 Life Skill items identified in the textbook, indicating that this skill also receives considerable attention. The frequent presence of related items suggests its importance in the overall content. However, the variance percentage of 19.23% highlights a noticeable imbalance, suggesting that while Problem Solving is emphasized, it does not hold as much influence as Critical Thinking. This disparity reflects an uneven distribution of Life Skills, limiting the textbook's ability to support comprehensive skill development. Problem solving skills statements extracted from the textbook are given as an example, "A vibrating body with constant frequency sends waves 0.2 m long through the medium A and 0.25 m long through medium B. If velocity of waves, in medium A is 280 m/s what is the velocity of the waves in medium B?". This statement was taken from the textbook, page number 115.

Creative Thinking Skill ranks next with only 30 identified items, which is noticeably fewer compared to other skills. Despite its crucial role in fostering holistic development among learners, this skill appears to receive limited attention in the textbook. The variance percentage of -0.71% further highlights its minimal impact, indicating that Creative Thinking is underrepresented. This lack of focus suggests that the textbook does

not adequately encourage students to think imaginatively or explore innovative approaches, which are essential for comprehensive cognitive and personal growth. Creative thinking skills statements extracted from the textbook are given as an example, “Draw a table indicating different vaccines and the diseases prevented by them”. This statement was taken from the textbook, page number 306.

Coping with Stress follows next with only 7 identified items, indicating a minimal presence and limited impact within the textbook. However, the inclusion of this skill though small reflects an awareness by curriculum developers of its potential importance in supporting students’ emotional well-being. The variance percentage of -2.18%, which is well below the average, confirms that this skill has a minor influence in shaping the textbook’s overall content. This suggests that more emphasis is needed to help learners manage stress effectively as part of their educational journey. Coping with stress skills statements extracted from the textbook are given as an example, “Oxygen is required to provide energy in the tissues. Hence, lack of energy will not allow us to work properly”. This statement was taken from the textbook, page number 286.

Empathy is next, with only 5 identified items, indicating a very limited presence in the textbook. The low count suggests that this skill may have been included more as a formality or to complement other skills, rather than being a core focus. The variance percentage of -2.51% further highlights its minimal impact, showing that Empathy plays a negligible role in the overall structure and influence of the textbook. This underrepresentation limits its potential contribution to students’ emotional and social development. Empathy skills statements extracted from the textbook are given as an example, “Hence, poverty or lack of public services becomes the third level of cause of the child’s disease”. This statement was taken from the textbook, page number 291.

Decision Making Skills are represented by only one identified item, indicating an extremely limited presence in the textbook. This minimal inclusion suggests that the skill was likely added for formality rather than with a focus on its importance and impact on learners. The variance percentage of -2.69% clearly shows that, statistically, this skill

holds no significant influence. It reflects a bare minimum contribution to the textbook's overall content, limiting opportunities for students to develop informed and responsible decision-making abilities. Decision making skills statements extracted from the textbook are given as an example, “You are asked by your chemistry teacher to buy 5 moles of distilled water from the medical store where small bottles each containing 10 ml distilled water are available. How many such bottles of distilled water would you buy?”. This statement was taken from the textbook, page number 196.

Self-awareness, interpersonal relationship, effective communication, and coping with emotions skills are completely missing from the textbook, which is disappointing and reduces the overall engagement while reading the chapters. The absence of these essential Life Skills highlights a clear bias in the textbook's approach showing preference for only certain skills while neglecting others that are crucial for students' overall development. The variance percentage of -2.78%, significantly below the average, confirms that these skills have no meaningful influence on the textbook's content. This lack of balance reveals a major shortcoming in addressing the diverse Life Skills needed for holistic education.

4.4.6. Conclusion

The analysis of the MBSE Class IX Science textbook clearly indicates that while the textbook is rich in conceptual and theoretical knowledge and to some extent provides practical insights, it significantly lacks a balanced representation of Life Skills as outlined by the World Health Organization (WHO). The textbook, consisting of 15 chapters covering the domains of Physics, Chemistry, Biology and Environmental Education, provides ample opportunities to embed Life Skills that contribute to students' holistic development. However, from the identification of 604 Life Skills items, it becomes evident that the focus remains narrowly confined to a few core skills, while many essential Life Skills are underrepresented or entirely missing. This gap suggests that while cognitive development is prioritized, the broader aims of education that nurture emotional, social and practical competencies are not fully realized.

A deeper look into the distribution of Life Skills shows a substantial dominance of Critical Thinking skills, with 344 instances, accounting for 56.95% of the total. This reflects the textbook's strong inclination towards developing analytical and evaluative capabilities, which are vital for scientific learning. Problem Solving skills follow with 219 instances (36.25%), further emphasizing the cognitive strength of the textbook. These findings demonstrate that the MBSE Science textbook is designed primarily to enhance the intellectual dimension of learners. While this focus is beneficial for strengthening logical reasoning and content comprehension, it overshadows the necessity for emotional intelligence, interpersonal collaboration and self-awareness skills that are equally important in real-world applications and overall student well-being.

The Activity and Content columns of the textbook reveal additional insights into this imbalance. Only 31 Life Skill items were found under the Activity section, a relatively low number considering that experiential learning is a critical pillar of effective science education. Activities are essential not just for reinforcing concepts but also for applying learning in practical, real-life contexts. Similarly, only 147 items were found in the Content section, showing a narrow focus on specific life skills while ignoring others. Conversely, the Question section yielded 426 Life Skill items, reinforcing the textbook's focus on Thinking and Problem-Solving skills. This over-reliance on questions and exercises to build cognitive ability has come at the cost of neglecting skills that foster emotional and social development.

Aligning these findings with the goals of the National Education Policy (NEP) 2020, the imbalance becomes more evident. NEP 2020 advocates for a holistic, inclusive and multidisciplinary approach to education that prepares students not just for academic success but also for life. It emphasizes critical thinking, creativity, effective communication, empathy, cooperation and resilience many of which are underrepresented or absent in the textbook. While the presence of Critical Thinking and Problem-Solving skills align well with NEP's vision of nurturing rational and analytical minds, the limited representation of Creative Thinking only 30 items is identified and a complete absence of

Self-awareness, Coping with Emotions, Effective Communication and Interpersonal Relationships deviate from NEP's broader developmental goals.

Creative Thinking, though recognized in NEP 2020 as essential for innovation and adaptability in a fast-changing world is poorly represented in the MBSE Class IX Science textbook. With only 4.96% frequency and a negative variance -0.71%, its role is marginal. NEP 2020 calls for project-based learning, exploration and encouraging curiosity, elements that stimulate creative thinking. Including open-ended experiments, science-based art integration and design-based tasks would make the subject more engaging and innovative. Likewise, Decision Making Skills in which only 1 item being identified is also an essential skill as per NEP 2020 to prepare students to make informed and ethical decisions in real-life situations. This skill enables them to evaluate choices and anticipate consequences, abilities that are vital not only in academic contexts but also in everyday life.

The absence of Self-awareness, Effective Communication, Interpersonal Relationship and Coping with Emotion skills directly contradicts the NEP 2020 vision of nurturing emotionally intelligent, socially responsible and resilient individuals. Self-awareness helps students understand their strengths, weaknesses, emotions and aspirations. Effective communication is vital for collaborative learning, group discussions and expressing scientific ideas clearly. Interpersonal skills foster cooperation and teamwork, essential for lab-based activities and community engagement. Coping with Emotions and Stress helps students deal with academic pressure, peer relationships and mental health challenges. NEP 2020 stresses the importance of integrating mental and emotional well-being into all levels of education. The absence of these skills from the MBSE Class IX Science textbook reflects a serious misalignment with these goals and limits the learner's capacity to thrive in school and beyond.

Furthermore, the underrepresentation of Empathy and Coping with Stress in the textbook shows a lack of emphasis on socio-emotional learning (SEL). Empathy, with just 5 identified items and Coping with Stress with only 7 are far below average in frequency

and variance. Yet, these are crucial in building compassionate, emotionally resilient learners attributes highlighted in NEP 2020 as essential for 21st-century citizenship. Science education provides opportunities to discuss ethical implications of scientific discoveries, environmental concerns and the role of science in society. These contexts offer ideal platforms to promote empathy and responsible behavior. Ignoring such elements reduces science to a purely academic pursuit rather than a human-centered discipline with real-world applications.

Therefore, while the MBSE Class IX Science textbook shows strength in nurturing Critical Thinking and Problem Solving, it lacks a balanced, inclusive approach to Life Skills Education as envisioned by WHO and strongly recommended in NEP 2020. The overemphasis on cognitive skills at the expense of emotional, social, and reflective skills hinders the holistic development of learners. To address this gap, future revisions of the textbook must incorporate a wider range of Life Skills through diversified content, interactive activities and inquiry-based questions. Activities that encourage self-expression, teamwork, empathy, stress management and ethical reasoning should be embedded within the chapters. Doing so will not only make the science curriculum more aligned with NEP 2020 but also empower students to become well-rounded individuals capable of thinking, feeling, and acting responsibly in an increasingly complex world. A reformed textbook with a balanced integration of all core Life Skills would transform science education into a dynamic and meaningful experience that prepares learners not just for exams, but for life.

Table 4.31. WHO Life Skills Mapping in MBSE Class-IX Science Textbook

Life Skills Mapping in MBSE Class – IX Science Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Motion	58	0	0
2	Force and Laws of Motion	59	0	0
3	Gravitation and Floatation	54	0	0
4	Work and Energy	55	0	0
5	Sound	40	0	0
6	Matter in Our Surroundings	30	0	0
7	Is Matter Around us Pure?	44	0	0
8	Atoms and Molecules	35	0	0
9	Structure of Atoms	25	0	0
10	The Fundamental Unit of Life	18	0	0
11	Tissues	20	0	0
12	Diversity in Living Organism	32	0	0
13	Why Do We Fall Ill?	44	0	5
14	Natural Resources	37	0	5
15	Improvement in Food Resources	43	0	0
TOTAL		594	0	10

Table 4.31 highlights that the textbook gives maximum focus to Thinking skills, with 594 life skills items identified, followed by Emotional skills with only 10 items included.

4.4.7. Analysis of MBSE Class – X Social Science Textbook

Table 4.32. WHO Life Skills Component-Wise Distribution in Social Science Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	15	2	291	308
	Creative thinking skills	8	10	27	45
	Problem solving skills	128	0	0	128
	Decision making skills	8	0	0	8
	Self- Awareness skills	5	0	0	5
Social Skills	Inter-personal relationship skills	30	0	0	30
	Effective Communication skills	5	0	0	5
Coping Skills	Coping with Emotions	30	0	0	30
	Coping with Stress	69	0	0	69
	Empathy	53	0	0	53
Total		351	12	318	681

Analysis & Interpretation

The MBSE Class X Social Science textbook is a well-structured theoretical resource comprising of 25 chapters which is divided into five sections: History, Geography, Political Science, Economics and Disaster Management. It offers a comprehensive approach to teaching, covering a broad range of topics. An analysis of the textbook revealed a total of 681 Life Skills components spread across various sections and

chapters. Impressively, all ten core Life Skills outlined by the WHO are effectively identified and integrated throughout the content. This inclusive incorporation enhances the textbook's educational value, promoting both academic and personal development. As such, the textbook proves to be an excellent and well-rounded choice for students, equipping them not only with subject knowledge but also essential life competencies.

Prior to table 4.32, the MBSE Class X Social Science textbook shows a significant number of Life Skills 351 items in total are identified directly from the main content of the chapters, which is highly commendable and exceeds expectations. The integration of a wide range of Life Skills across various parts of the content highlights a strong focus on the holistic development of learners. This approach suggests that the curriculum designers have carefully considered not just academic learning but also the personal growth and emotional intelligence of students while framing the syllabus.

Additionally, 318 Life Skills items are drawn from the Questions section at the end of each chapter. However, this section largely emphasizes specific Life Skills rather than representing a balanced inclusion of all ten WHO core Life Skills, which is somewhat disappointing. A more diverse representation of skills in this part could have significantly enhanced its value.

Lastly, only 12 Life Skills items are identified from the Activity Corner, which is unexpectedly low. This is concerning, as activities play a crucial role in fostering enthusiasm, teamwork and real-life application of concepts among students. Engaging activities are essential for developing emotional connections, peer collaboration and experiential learning, all of which contribute meaningfully to a student's ability to face real-world challenges with confidence and resilience. So, out of all the extensive chapters in this textbook, it is sad that just a few skills fit into this group.

Table 4.33. Overall Analysis of MBSE Class – X Social Science Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	308	1	45.22%	2.60	75.34%
	Creative thinking skills	45	5	6.61%	-0.25	0.69%
	Problem solving skills	128	2	18.79%	0.65	4.69%
	Decision making skills	8	8	1.17%	-0.65	4.72%
	Self-Awareness skills	5	9	0.73%	-0.68	5.21%
Social Skills	Inter-personal relationship skills	30	6	4.41%	-0.41	1.90%
	Effective Communication skills	5	9	0.73%	-0.68	5.21%
Coping Skills	Coping with Emotions	30	6	4.41%	-0.41	1.90%
	Coping with Stress	69	3	10.13%	-0.009	0.001%
	Empathy	53	4	7.78%	-0.16	0.29%
Total		681		100%		100%

Analysis & Interpretation

MBSE Class 10 Social Science textbook is a comprehensive resource that covers essential concepts, real-life examples and thought-provoking questions aimed at enhancing learners' cognitive development and overall growth. As reflected in the table above, it is both impressive and encouraging to see that all ten core Life Skills outlined by WHO are identified throughout the textbook. This thoughtful integration contributes significantly to the learner's personal development beyond academic content. However, the Contribution to Variance data reveals that some Life Skills are represented very

minimally, indicating an imbalance in their distribution. This lack of proportional representation suggests that certain skills are overly emphasized while others are neglected, despite their equal importance in shaping a well-rounded and effective learning experience. For true holistic education, all Life Skills should be integrated more evenly rather than focusing disproportionately on a few.

The table 4.33 clearly shows that Critical Thinking Skills are highly emphasized in the MBSE Class 10 Social Science textbook, with a total of 308 identified instances making up approximately 45.22% of all Life Skills. This indicates that a significant focus has been placed on this particular skill throughout the textbook. Moreover, the Contribution to Variance column confirms that Critical Thinking Skills are overly concentrated, contributing the largest portion to the overall variance with 75.34% which clearly suggests an imbalance in the representation of Life Skills, with Critical Thinking receiving more attention than other equally important skills that are underrepresented. Critical thinking skills statements extracted from the textbook are given as an example, “Examine the reasons behind the persistence of chronic poverty in India”. This statement was taken from the textbook, page number 267.

Additionally, with 128 instances or 18.79% of the total, Problem-solving skills are the second most identified a positive number considering how crucial these skills are for helping students develop critical thinking. With a percentage of 4.69%, this skill makes a significant contribution even if the Contribution to Variance column shows that its impact is less significant than that of Critical Thinking. This demonstrates that problem-solving skills are appropriately represented and serve a supportive role in the textbook, although not being heavily emphasised. Problem solving skills statements extracted from the textbook are given as an example, “Movements for women’s rights over several decades are trying to break down such trends to bring about equality and empower women”. This statement was taken from the textbook, page number 198.

Furthermore, 69 items in which 10.13% of the total in the textbook are related to coping with stress. Despite being a modest number, this is somewhat low given the volume

of the textbook and the significance of this ability in fostering students' empathy and emotional health. Remarkably, the Contribution to Variance column reveals that, despite its crucial function in human development, this has little influence and a smaller impact inside the textbook's broader Life Skills framework. Coping with stress skills statements extracted from the textbook are given as an example, “What is significant is the fact that people who have a low status in society also suffer due to their poor economic condition”. This statement was taken from the textbook, page number 196.

Furthermore, Empathy is the next skill identified with 53 instances making up 7.78% of the total. At present, this number is relatively low considering the importance of empathy in helping adolescents navigate daily challenges and emotional struggles. According to the Contribution to Variance column, Empathy has a minimal impact on the overall textbook contributing only 0.29%. This highlights a concerning imbalance, as it suggests the skills are not evenly represented, with the textbook placing disproportionate emphasis on certain skills while neglecting others that are equally vital. Empathy skills statements extracted from the textbook are given as an example, “Several small-sized manufacturing units have been shut down, rendering many workers jobless”. This statement was taken from the textbook, page number 327.

Additionally, Creative Thinking Skills are identified 45 times accounting for 6.61% of the total relatively low given their importance for both the textbook and learner development. Furthermore, the Contribution to Variance column shows a mere 0.69%, indicating that this skill has minimal influence on the overall structure of the textbook. This reflects a disappointing imbalance, as such a crucial skill receives limited emphasis, which is both concerning and unsatisfactory. Creative thinking skills statements extracted from the textbook are given as an example, “In this conference, Cavour painted the miserable condition of Italy in an impressive way and held Austria responsible for it”. This statement was taken from the textbook, page number 8.

Furthermore, Interpersonal Relationship Skills and Coping with Emotions were each identified in only 30 instances accounting for 4.41% which is relatively low.

Additionally, the Contribution to Variance section shows just 1.90%, indicating that these two skills have limited influence within the textbook's content and activities. This clearly highlights the lack of consistent or balanced representation of Life Skills throughout the textbook. Inter-personal relationship skills statements extracted from the textbook are given as an example, "The Crimean war broke out and Cavour saw this as an opportunity to win some friends for Italy". This statement was taken from the textbook, page number 8.

Another skill identified is Decision-Making with only 8 items making up 1.17%, indicating a low presence in the textbook. However, the Contribution to Variance column shows 4.72%, suggesting a moderate impact of this skill within the overall Life Skills framework of the textbook. This moderate contribution despite the low frequency is somewhat unexpected and indicates that its influence is greater than its representation. Decision making skills statements extracted from the textbook are given as an example, "By a plebiscite, the kingdoms of Naples and Sicily opted to merge with Sardinia". This statement was taken from the textbook, page number 8.

Following this, Self-awareness and Effective Communication skills were each identified in only 5 instances contributing a mere 0.73%, reflecting a minimal presence in the textbook. However, the Contribution to Variance column shows a surprisingly high 5.21% indicating that despite their limited representation, these skills have a significant influence on the overall content, activities and structure of the textbook. This suggests that their impact is substantial even though the number of identified items is relatively low. Effective communication skills statements extracted from the textbook are given as an example, "Both cooperated with each other in emergency and had to deal with Austria as an obstacle to their respective unifications". This statement was taken from the textbook, page number 9.

4.4.8. Conclusion

The analysis of the MBSE Class 10 Social Science textbook reveals a clear alignment with several key principles of the National Education Policy (NEP) 2020, particularly in its strong emphasis on cognitive capacities like Critical thinking and Problem-solving. NEP 2020 envisions a shift from rote memorization to a more competency-based and holistic form of education, where learners are equipped not only with academic knowledge but also with essential Life Skills that support their personal, emotional and social growth. In this regard, the textbook's heavy focus on Critical thinking with 308 instances accounting for over 45% of all identified Life Skills demonstrates a conscious effort to foster analytical thinking and Decision-making abilities among students. This aligns with NEP's call for higher-order thinking skills as foundational to 21st-century education. Similarly, the considerable presence of Problem-solving skills supports the NEP's focus on inquiry-based and experiential learning, offering students opportunities to engage with real-world issues through a reflective lens. However, while the textbook does well in emphasizing cognitive skills, it deviates from NEP 2020's holistic vision by failing to ensure balanced representation across the broader spectrum of Life Skills. NEP highlights the importance of emotional and social development alongside intellectual growth. Yet, skills such as Coping with stress, Empathy, Self-awareness, Communication and interpersonal relationships are significantly underrepresented in the textbook. For instance, Empathy appears only 53 times making up less than 8% of the total and skills like Self-awareness and Communication are found only five times each. This indicates a disparity that contradicts NEP's emphasis on developing emotionally resilient and socially responsible learners.

Moreover, while NEP 2020 encourages the inclusion of Creative and reflective tasks that promote values, well-being and interpersonal sensitivity the textbook appears to offer limited integration of such elements. Even though some of the underrepresented skills contribute disproportionately to the overall variance such as Decision-making and

Self-awareness their low frequency in the textbook's content suggests a missed opportunity to cultivate the full range of competencies that NEP envisions.

In essence, while the MBSE textbook takes a commendable step toward implementing NEP's academic and cognitive goals, it falls short in fulfilling the policy's broader mission of holistic education. NEP 2020 calls for an education system that nurtures well-rounded individuals prepared to navigate life with empathy, resilience, creativity and strong interpersonal relationships. The current imbalance in Life Skill representation in the textbook underscores the need for curriculum developers and educators to infuse emotional and social dimensions more consistently, ensuring that all ten WHO Life Skills are not only acknowledged but meaningfully integrated across the learning experience. This will ultimately help realize the transformative goals set forth by NEP 2020.

Table 4.34. WHO Life Skills Mapping in MBSE Class-X Social Science Textbook

Life Skills Mapping in MBSE Class – X Social Science Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Nationalism in Europe	3	6	9
2	Nationalism in India	24	1	19
3	Age of Industrialization	15	1	16
4	Making of a Global World	14	2	10
5	Print Culture and the Modern World	24	0	5
6	Resources and their Development	19	0	8
7	Forest and Wildlife Resources	20	1	6
8	Water Resources	20	0	5
9	Agriculture	22	0	2
10	Minerals and Power Resources	26	0	3
11	Manufacturing Industries	21	0	1
12	Transport, Communication and Trade	18	5	0
13	Working of Democracy	18	2	17
14	Power Sharing	28	3	5

15	Competition and Contestation in Democracy	24	5	7
16	Outcomes of Democracy	19	2	2
17	Challenges to Democracy	20	0	2
18	The Story of Development	21	0	3
19	Role of the Service Sector in Indian Economy	27	0	6
20	Money and Financial System	25	0	4
21	Globalization and the Indian Economy	24	4	6
22	Consumer Awareness	26	0	5
23	Disaster Management	14	3	8
24	Survival Skills	15	0	3
25	Alternative Communication Systems	7	0	0
TOTAL		494	35	152

Table 4.34 shows that Thinking skills dominate with 494 Life Skills items identified, followed by 152 items under Emotional skills and 35 items under Social skills.

4.4.9. Analysis of MBSE Class – X Maths Textbook

Table 4.35. WHO Life Skills Component-Wise Distribution in Class-X Maths Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	48	5	6	59
	Creative thinking skills	4	3	3	10
	Problem solving skills	298	1	647	946
	Decision making skills	0	0	0	0
	Self-Awareness skills	0	0	0	0
Social Skills	Inter-personal relationship skills	0	0	0	0
	Effective Communication skills	0	1	0	1
Coping Skills	Coping with Emotions	0	0	0	0
	Coping with Stress	1	0	0	1
	Empathy	0	0	0	0
Total		351	10	656	1017

Analysis & Interpretation

MBSE Class – X Maths textbook is a theoretical yet mostly Problem-solving structured books which aims to develop and enhance the learners Thinking skills which is also one of the top core priority of NEP 2020 as well. This textbook consists of 19 chapters including all the content necessary for the learners to have mental development and age level cognitive strength for their future. In this textbook, a total of 1017 Life Skills items are identified across different chapters and sections. But unfortunately, this textbook only give importance to Problem Solving skills but lacking other skills which are also an essential skills to deepen, strengthen and enrich the textbook. This clearly depict that instead of expressing and including the importance of different Life Skills items inside the

syllabus just a single skills i.e., Problem Solving skills is overstated and outnumbered other skills which is pathetic.

The table 4.35 reveals that most identified items 656 in total come from the textbook's question section indicating a strong emphasis on practice exercises. However, despite the high quantity the distribution of different skills is uneven. While the total number of questions is substantial not all essential skills are equally represented. This imbalance suggests that while the textbook provides ample practice material, it lacks comprehensive coverage across all necessary skill areas, leaving some competencies underdeveloped despite the overall satisfactory volume of questions.

In addition, the textbook's content section includes a total of 351 identified items, which is a substantial number. However, it is disappointing to note that these items do not reflect a balanced inclusion of all the different Life Skills. Instead, there appears to be a clear preference for certain skills while others are largely overlooked. This uneven distribution suggests a lack of uniformity in representing the WHO-recommended Life Skills, resulting in an imbalanced approach that undermines the goal of providing holistic and well-rounded education as emphasized in Life Skills frameworks.

Ultimately, only 10 items have been identified from the Activity section across various chapters in the textbook. This number is quite limited and falls short of expectations especially when considering the extensive scope and depth of the chapter content. Given the importance of engaging learners through interactive and skill-building activities the current representation is insufficient. Such a low number indicates a missed opportunity to reinforce Life Skills through practical application, which is essential for holistic learning. Therefore, the inclusion of activities appears minimal and does not meet the required standard.

Table 4.36. Overall Analysis of MBSE Class – X Maths Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	59	2	5.80%	-0.14	-0.22%
	Creative thinking skills	10	3	0.98%	-0.30	-1.05%
	Problem solving skills	946	1	93.01%	2.84	89.65%
	Decision making skills	0	0	0	-0.34	-1.30%
	Self-Awareness skills	0	0	0	-0.34	-1.30%
Social Skills	Inter-personal relationship skills	0	0	0	-0.34	-1.30%
	Effective Communication skills	1	4	0.09%	-0.33	-1.27%
Coping Skills	Coping with Emotions	0	0	0	-0.34	-1.30%
	Coping with Stress	1	4	0.09%	-0.33	-1.27%
	Empathy	0	0	0	-0.34	-1.30%
Total		1017		100%		100%

Analysis & Interpretation

MBSE class – X Maths textbook provide an insightful experience to the learner by providing a detail chapters giving clear illustrations, tables, figures and examples in each content. Since this textbook is prepared in bilingual form, this will strongly enhance the pupils’ capability and grasping of the content more meaningfully and effectively leading to a wider understanding and accepting the true beauty of Maths and its application in everyday challenges. Thus, from the table given above it is reflected that Thinking skills

components are strongly given favoritism in the entire textbook but giving bare minimum importance to other components like Social skills and Emotional skills. Furthermore, under Thinking skills Critical thinking skills, Creative thinking skills and Problem solving skills are vastly expressed and stressed more which clearly shows that this textbook had given a one-sided significant importance to a specific skills and partiality do happens in the numbering of skills identified from the textbook.

From the above table 4.36, it is clearly clarified that Problem solving skill is large in number and gave a significant importance while analyzing the textbook with a total of 946 items identified with a percentage of 93.01% in MBSE class – X Maths textbook. The number of items identified is quite compatible with this skill according to the subject. Furthermore, Contribution to Variance column shows that Problem solving skill is strongly emphasized and given more concentration with a percentage of 89.65% which cover majority of the skill from the textbook. Problem solving skills statements extracted from the textbook are given as an example, “How many terms of the AP : 24, 21, 18,...must be taken so that their sum is 78? Explain the double answer”. This statement was taken from the textbook, page number 151.

Secondly, Critical thinking skills follow with 59 items being identified from the textbook with a percentage of 5.80% which is beyond lesser than expectation. Thus, according to Contribution to Variance a percentage of 0.22% is express out which contribute to be the second largest skill being identified in this textbook. Thus, from the skill being identified shows that even though different skills are express and identify in the textbook, the number of items express is almost not satisfactory according to the numbering identified. Critical thinking skills statements extracted from the textbook are given as an example, “Do you know what do these equations look like geometrically?”. This statement was taken from the textbook, page number 58.

Thirdly, Creative thinking skill follows with a total of 10 items with a percentage of 0.98% which is less in number compared to the number of skill identified so far. Even though this skill is suitable and compatible with the textbook, not much heed is paid to

this skill while framing the textbook from the framer. According to the Contribution to Variance column, it clearly shows that with a percentage of 1.05% the skills given in the textbook shows biasness, imbalance in the presentation of Life Skill and given importance to a specific skills. Creative thinking skills statements extracted from the textbook are given as an example, “Can you now suggest what a system of linear equations in two variables will look like, geometrically?”. This statement was taken from the textbook, page number 58.

Fourthly, Effective Communication skill and Coping with stress is another skill express in the textbook with a total of 1 item each being identified in this textbook which is pathetic and sad as such skills also play an important role in building a strong foundation to the learner from early stage. Thus, according to Contribution to Variance column with a percentage of 1.27% is identified which clearly indicates that a huge gap is stress in the number of items identified and there is partiality in the skills given in the textbook. Coping with stress skills statements extracted from the textbook are given as an example, “Sometimes the buyer is not in a position to purchase an item due to lack of money, although he/she is in great need of it”. This statement was taken from the textbook, page number 1.

4.4.10. Conclusion

The overall analysis of the MBSE Class X Mathematics textbook indicates a significant gap between its current structure and the vision outlined in the National Education Policy (NEP) 2020. While the textbook offers a solid foundation in mathematical reasoning through a strong emphasis on problem solving which is reflected in the overwhelming identification of 946 items related to this skill; this focus reveals a narrow and limited interpretation of Life Skills development. NEP 2020 advocates for a holistic and multidisciplinary educational approach that fosters not only cognitive abilities but also emotional, social and interpersonal growth among learners.

However, the textbook's representation of Life Skills remains largely confined to the domain of Thinking skills with minimal inclusion of Critical and Creative thinking and an almost complete absence of other essential Life Skills such as Decision making, Self-awareness, Empathy and Interpersonal relationships. The Activity section which should ideally provide opportunities for experiential learning and the application of diverse Life Skills is notably underdeveloped, offering only a token number of activities that fall short of NEP 2020's experiential and learner-centered pedagogical vision.

This limited and uneven distribution of Life Skills reflects a missed opportunity to align the textbook with NEP 2020's broader educational goals. By prioritizing only one skill while neglecting others, the textbook inadvertently promotes a one-dimensional view of student development. To truly serve the aspirations of NEP 2020, future revisions of this textbook must adopt a more balanced, inclusive and skill-integrated approach that prepares learners not just academically but also socially and emotionally for the complex challenges of the 21st century.

Table 4.37. WHO Life Skills Mapping in MBSE Class-X Maths Textbook

Life Skills Mapping in MBSE Class – X Maths Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Instalments	22	0	1
2	Time and Distance, Time and Work	46	0	0
3	Polynomials	39	0	0
4	Linear Equations in Two Variables	79	0	0
5	Quadratic Equations in Two Variables	74	0	0
6	Arithmetic Progression (AP)	83	0	0
7	Sets	51	1	0
8	Triangles	94	0	0
9	Circles	72	0	0
10	Constructions	25	0	0
11	Coordinate Geometry	80	0	0
12	Trigonometric Identities	65	0	0
13	Trigonometric Ratios of Complementary Angles	30	0	0
14	Heights and Distances	37	0	0

15	Areas Related to Circles	50	0	0
16	Surface Areas and Volumes	76	0	0
17	Mean, Median and Mode of Grouped Data	46	1	0
18	Probability	30	0	0
19	Pictorial Representation of Data	16	0	0
TOTAL		1015	1	1

Table 3.37 highlights that Thinking skills dominate with 1015 Life Skills items identified in the textbook. In contrast, both Social skills and Emotional skills are minimally represented with only one item each appearing throughout the text.

4.4.11. Analysis of MBSE Class – X Science Textbook

Table 4.38. WHO Life Skills Component-Wise Distribution in Class – X Science Textbook

	Life Skills Components	Content	Activities	Question	Total
Thinking Skills	Critical thinking skills	37	5	314	356
	Creative thinking skills	13	0	44	57
	Problem solving skills	79	6	30	115
	Decision making skills	0	0	2	2
	Self- Awareness skills	1	1	0	2
Social Skills	Inter-personal relationship skills	1	1	0	2
	Effective Communication skills	0	0	0	0
Coping Skills	Coping with Emotions	3	0	0	3
	Coping with Stress	14	0	0	14
	Empathy	4	0	0	4
Total		152	13	390	555

Analysis & Interpretation

MBSE Class – X Science textbook provide a theoretical concept with practical exercises which cover a wide range of chapters of algebra, geometry and statistics which is a crucial topic and quite compatible with the learners' age and situation. Analysis of this textbook reveal that a total of 555 Life Skills items are identified wholly from the textbook with different skill being identified and a remarkable findings is that this textbook give importance and stressed towards Critical thinking skills above all skills. The inclusion and identification of majority of the WHO ten core Life Skills components clearly depict that the textbook give importance to overall development and growth to the pupils' who are going to face multiple challenges ahead.

Prior to table 4.38, a total of 152 Life Skills components have been identified within the Content of the textbook which are derived from the examples, illustration and explanatory sections embedded across different chapters. Different components are integrated into the instructional material and reflect the textbook's potential to foster the development of essential Life Skills. The inclusion of such elements shows how the content supports the cultivation of high order thinking abilities by including all the skills, especially which belong to the Thinking skills

The textbook consist of 13 Life Skills components are identified from the Activity section but the number is relatively limited considering the overall scope of the textbook and the prescribed syllabus. The representation of Life Skills through activities appears insufficient in proportion to the content covered which indicates a clear gap between the intended educational outcomes and the extent to which experiential and skill-based learning is integrated within the textbook's structure.

In addition, a total of 390 Life Skills items were identified from the Questions and Exercises section in each chapter, which is notably high and considered satisfactory. These items encompass a wide range of Life Skills components which indicate a comprehensive and diverse representation. This suggests that the curriculum reflects a broad and inclusive approach in the design and organization of chapters and content, aiming to promote the holistic development of learners through skill-based engagement and practice.

Table 4.39. Overall Analysis of MBSE Class – X Science Textbook with Regard to WHO Ten Core Life Skills Components

	Life Skills Components	Frequency	Rank	Relative Frequency (%)	Z-Score	Contribution To Variance (%)
Thinking Skills	Critical thinking skills	356	1	64.14%	2.68	80.16%
	Creative thinking skills	57	3	10.27%	0.013	0.002%
	Problem solving skills	115	2	20.72%	0.53	3.14%
	Decision making skills	2	7	0.36%	-0.47	-2.54%
	Self-Awareness skills	2	7	0.36%	-0.47	-2.54%
Social Skills	Inter-personal relationship skills	2	7	0.36%	-0.47	-2.54%
	Effective Communication skills	0	0	0	-0.49	-2.73%
Coping Skills	Coping with Emotions	3	6	0.54%	-0.46	-2.44%
	Coping with Stress	14	4	2.52%	-0.37	-1.52%
	Empathy	4	5	0.72	-0.46	-2.35%
Total		555		100%		100%

Analysis & Interpretation

MBSE class – X Science textbook is a well structured and comprehensive resources that covers essential content, examples, questions, illustration and activities. It is thoroughly designed by curriculum developers with a clear focus on integrating various Life Skills components. The textbook effectively incorporates nearly all of WHO's ten core Life Skills across its chapters, reflecting an intentional effort to embed these skills within the learning process and ensure holistic development of students through its content and structure.

The table 4.39 above clearly highlights that Critical thinking skills is significantly more emphasized than any other skill in the textbook. With a total of 356 identified items, this skill stands out as the most represented throughout the content. The Contribution to Variance column further supports this observation, assigning Critical thinking skills a notable with 80.16% which clearly indicates its dominant presence. This overwhelming percentage reflects the textbook's strong focus on fostering Critical thinking among students. In contrast, the other Life Skills appear underrepresented as shown by their comparatively lower percentage. This suggests that a considerable imbalance where Critical thinking skill is prioritized at the expense of a more balanced inclusion of other essential Life Skills. Critical thinking skills statements extracted from the textbook are given as an example, "Is rusting of iron a physical or chemical change?". This statement was taken from Chemistry textbook, page number 109.

In addition, Problem Solving Skills rank second with 115 identified Life Skills items in the textbook, which is a relatively satisfactory number compared to other skills. However, the Contribution to Variance column shows only 3.14%, indicating a significant disparity in the distribution of Life Skills. Although the textbook includes most of the WHO core skills, the frequency of their inclusion is not balanced. This uneven representation suggests that the textbook tends to emphasize certain skills more than others, rather than offering a uniformly distributed focus across all Life Skills. Problem solving skills statements extracted from the textbook are given as an example, "Environmental issues are harmful aspects of human activity on the biophysical environment. Human activities are mainly responsible for causing environmental problems and pollution". This statement was taken from Biology textbook, page number 190.

Creative Thinking Skills are given some consideration after Problem Solving Skills with 57 items identified in the textbook. However, this number is relatively low and unsatisfactory especially given the importance of this skill in nurturing the fresh and innovative minds of adolescents. The Contribution to Variance is a mere of 0.002%, which

is extremely minimal and disappointing. This alarmingly low percentage reflects the lack of emphasis placed on Creative Thinking in the textbook, highlighting a concerning gap in promoting this essential Life Skill within the educational content. Creative thinking skills statements extracted from the textbook are given as an example, “To harness these non-conventional sources which are available in abundance we would need to develop new techniques for using these alternative sources”. This statement was taken from Physics textbook, page number 208.

Coping with stress followed with a few 14 items being identified from the textbook which is less in number while considering the importance of the skills in coping the learner to deal and manage their coping skills. Upon the Contribution to Variance column, only a percentage of -1.52% which give a negatively skewed data and clearly shows that there is imbalance in the numbering of skills extracted and only a small fraction of skills from the textbook is reflected in this current skill. Coping with stress skills statements extracted from the textbook are given as an example, “During the processing of any natural resource, some waste is always generated which tends to damage the environment”. This statement was taken from Biology textbook, page number 216.

Empathy followed the sequence of skills identified with a number of 5 items while analyzing the textbook which is beyond less in number according to above skills given. This skill is one most significant skill for nurturing the growing youth to instill the right values. According to Contribution to Variance column, -2.35% is given which clearly depicts that this skill is less significant in comparing to other skills as it shows a vast widely negatively skewed representation in the table given. Empathy skills statements extracted from the textbook are given as an example, “The leader of this movement, a woman, Amrita Devi Bishnoi with her 362 followers of Bishnoi community, resisted the felling of khejri trees in Khejrli village near Jodhpur in Rajasthan. The contractors, with their band of workers, axed them to death”. This statement was taken from Biology textbook, page number 217.

Coping with Emotions is represented by just 3 items in the textbook, which is unexpectedly low considering the importance of this skill in students' emotional development. Despite the curriculum's aim to promote diverse Life Skills, its inclusion in the textbook is minimal and falls short of expectations. The Contribution to Variance stands at -2.44%, indicating a negatively skewed and below-average presence compared to other skills. This suggests that Coping with Emotions is not sufficiently addressed, revealing a gap in the textbook's effort to support students' emotional well-being. Coping with emotions skills statements extracted from the textbook are given as an example, "All of these Bishnoi community members sacrificed their lives because the conservation of forest and wildlife has been a religious doctrine for them". This statement was taken from Biology textbook, page number 217.

Decision Making Skills, Self-Awareness Skills and Interpersonal Relationship Skills are each represented by only 2 items in the textbook which is quite unsatisfactory compared to the other identified skills. This limited inclusion highlights a lack of emphasis on these essential areas of personal development. The Contribution to Variance is -2.54%, reflecting a negatively skewed distribution. This clearly indicates that these skills were not given much importance during the textbook's development, revealing an imbalance in the integration of core Life Skills. Decision making skills statements extracted from the textbook are given as an example, "In the electrolytic refining of a metal M, what would you take as the anode, the cathode and the electrolyte?". This statement was taken from Chemistry textbook, page number 112.

4.4.12. Conclusion

The content of the MBSE Class X Science textbook reflects a structured and comprehensive effort to deliver both theoretical knowledge and practical learning experiences. It includes well-designed chapters enriched with examples, illustrations and questions that aim to promote student engagement and deeper understanding. A total of 555 Life Skills items have been identified across the textbook, derived from different sections such as the content, activities and questions/exercises. This shows that the

textbook has been thoughtfully prepared with an intent to integrate various Life Skill components essential for student growth and development.

However, a detailed analysis reveals a highly uneven distribution of these skills. Critical Thinking Skills are disproportionately emphasized with 356 items contributing to 80.16% of the total variance suggesting a dominant focus on logical and analytical reasoning. While this is undoubtedly a key skill in science education, the overwhelming prioritization of it comes at the cost of other equally vital skills. For instance, Problem Solving Skills and Creative Thinking Skills are present but significantly lower in number, and essential Life Skills such as Coping with Emotions, Coping with Stress, Empathy, Decision Making and Interpersonal Relationship Skills are either marginally represented or entirely overlooked. This imbalance is further reflected in the Contribution to Variance percentages where several skills show negatively skewed values, indicating a lack of uniform integration across the textbook.

The activity section, which ideally should offer hands-on, experiential learning and real-life application of Life Skills, includes only 13 identified items an alarmingly low figure compared to the textbook's breadth and the goals of the curriculum. While the Questions and Exercises section fares better with 390 identified Life Skills items, the overall integration remains heavily tilted toward cognitive rather than social and emotional competencies.

Aligning the textbook's content with the principles of the National Education Policy (NEP) 2020 reveals a need for substantial improvement. NEP 2020 envisions a holistic, multidisciplinary, and skill-enriched education that goes beyond academic proficiency. It emphasizes the development of critical thinking, creativity, collaboration, emotional resilience and ethical reasoning Life Skills that prepare learners to thrive in a complex, ever-changing world. The current structure of the textbook, while strong in promoting critical thinking, does not fully support the NEP's vision of balanced, inclusive and learner-centered education.

To meet the objectives of NEP 2020, future revisions of the MBSE Class X Science textbook must strive for a more equitable representation of all WHO-recommended life skills. This would not only enhance the overall learning experience but also ensure that students are better equipped with the emotional, cognitive, and social tools necessary to navigate the challenges of both academic and real-life contexts.

Table 4.40. WHO Life Skills Mapping in MBSE Class-X Science Textbook

Life Skills Mapping in MBSE Class – X Science Textbook				
1	2	3	4	5
Chapter Number	Chapter Name	Thinking Skills	Social Skills	Emotional Skills
1	Periodic Classification of Elements	27	0	0
2	Chemical Reactions and Equations	30	0	0
3	Metals and Non – Metals	40	0	0
4	Acids, Bases and Salts	55	0	1
5	Carbon and Its Compound	31	1	1
6	Life Processes	44	0	2
7	Control and Coordination	26	0	1
8	How Do Organisms Reproduce?	24	0	4
9	Heredity and Evolution	24	0	2
10	Our Environment	24	0	5
11	Management of Natural Resources	19	0	0

12	Light – Reflection and Refraction	48	1	0
13	The Human Eye and the Colourful World	38	0	2
14	Electricity	45	0	0
15	Magnetic Effects of Electric Current	29	0	0
16	Sources of Energy	28	0	3
TOTAL		532	2	21

Table 4.40 clearly shows that Thinking skills are the most dominant, with 532 life skills items identified in the textbook. In comparison, Emotional skills account for 21 items, while Social skills are represented by only 2 items.

4.5. Objective no. 4 : Comparing CBSE and MBSE Syllabus with Reference to WHO Life Skills Components

The comparison of CBSE and MBSE syllabi highlights that both boards align strongly with NEP 2020 in terms of cognitive skills, particularly Critical thinking and Problem-solving. However, this focus creates a clear imbalance as social and emotional life skills such as Empathy, Communication, Coping with stress and Interpersonal relationships are underrepresented. CBSE demonstrates a comparatively wider scope, incorporating some elements of emotional and social learning through activities and contextual questions though these remain limited. MBSE, in contrast is heavily skewed toward content and examination-driven learning, with activity-based and experiential approaches almost absent leading to a narrow and cognitively dominant curriculum. While CBSE holds promises for more balanced development if its activity sections are better utilized, MBSE offers limited scope for holistic growth. Both syllabi need stronger integration of social-emotional learning (SEL) to meet NEP 2020's vision of holistic, competency-based education.

4.5.1. Comparing Life Skills Integration in CBSE and MBSE Class – IX Social Science Textbook

The CBSE and MBSE Class IX Social Science textbooks are theoretical in nature, presenting essential chapters that support learners in broadening their knowledge. Both serve as informative resources that help students deepen their understanding. They are comprehensive, detailed and written in a way that is accessible to readers. However, a closer look at their content and analysis reveals significant differences across various dimensions. Both textbooks systematically integrate Life Skills components, highlighting which skills receive more emphasis and which are given less attention, while reflecting the curriculum planners' priorities. In addition, the principles of NEP 2020 have been given importance with efforts made to embed its key recommendations such as competency-based learning, critical thinking and holistic skill development throughout

the curriculum. Nevertheless, the scope, distribution and balance of these skills still differ markedly between the two textbooks which is further illustrated in the table below.

Table 4.41. Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – IX Social Science Textbook

Dimension	CBSE Textbook			MBSE Textbook		
	Content	Activities	Question	Content	Activities	Question
Total Life Skills Items Identified	361	105	205	271	18	239
Total Number of Chapters	20			26		
Highest Represented Skills	Critical Thinking Skills			Critical Thinking Skills		
Second Highest Skills	Creative Thinking Skills/ Problem Solving Skills			Empathy		
Underrepresented Skills	NIL			NIL		
Activity-based Skill Items	Substantial Across Chapters			Minimal		
Distribution Balance	Fairly Distributed Across Content, Activities and Questions			Heavily Content and Question Focused, Weak in Activities		

Table 4.41 presents a comparative analysis of life skills integration in the CBSE and MBSE Class IX social science textbooks by highlighting a notable similarities and contrasts in representation, emphasis and distribution. The differences in the textbook lies on the number of Life Skills items identified with CBSE textbook containing 361 items in content section, 105 in activities and 205 items in question section while items compared to MBSE with 271 Life Skills items in content, 18 items in activities and 239 items in question section. This numerical disparity suggests that CBSE provides a relatively richer presence of Life Skills elements, potentially offering students more opportunities for exposure to these competencies within the curriculum.

In terms of skill representation from table 4.41 both textbooks share a common strength in which Critical thinking skills emerge as the most prominently represented dimension. This indicates that both curricula are aligned in fostering analytical reasoning and problem-solving capabilities among learners, reflecting the priority given to higher-order thinking in line with NEP 2020 objectives. In CBSE textbook, Creative thinking and Problem-solving follow critical thinking, reflecting a strong emphasis on innovation, adaptability and solution-oriented learning. On the other hand, MBSE textbook places empathy as its second-highest skill which suggest a curriculum that leans more towards social-emotional learning and the development of interpersonal understanding. This difference reveals that CBSE focuses on cognitive flexibility while MBSE prioritizes emotional intelligence.

Table 4.41 also give underrepresented skills which further underscore the differences in which CBSE weaker areas are Self-awareness, Communication and Interpersonal skills indicating a relative lack of direct opportunities for students to reflect on their own emotions, express ideas effectively and build rapport. But MBSE shows a similar deficiency in Self-awareness, Communication and Interpersonal relationships but additionally underrepresents Coping with emotions. This suggests that MBSE curriculum is less equipped to support students in developing resilience and emotional regulation, skills that are increasingly vital in holistic education frameworks.

From table 4.41, Activity-based skill items shows the clearest differences between CBSE and MBSE textbook. CBSE incorporates a substantial number of activity-based opportunities across the chapters by offering students more experiential and participatory modes of learning. In contrast, MBSE shows a minimal presence of such items, relying more on content delivery and assessment-based reinforcement rather than interactive and hands-on approach. This gap could have significant implications for student engagement and skill application in real-world contexts.

The balance of distribution also varies in table 4.41 while CBSE Life Skills items are fairly distributed across content, activities and questions, providing a more integrated

learning experience but MBSE, however, is heavily skewed towards content and questions with a weak activity component. This imbalance may limit the practical application of skills and reduce the scope for learner-centered, experiential pedagogy.

Table 4.42. Final Comparative Insights

Criteria	CBSE	MBSE
NEP 2020 Alignment (Cognitive Skills)	Strong	Strong
NEP 2020 Alignment (Emotional & Social Skills)	Moderate	Weak
Balance of Life Skills	Fair, need more SEL	Heavily skewed towards Critical Thinking
Activity Integration	Adequate	Inadequate
Potential for Holistic Development	Promising	Limited

Table 4.42 display the final comparative insights between the CBSE and MBSE Class IX social science textbooks by showing their relative strengths and gaps while integrating Life Skills by aligning it with NEP 2020. Both textbooks demonstrate strong integration with NEP 2020 in terms of cognitive skills. This indicates that the two textbooks are equally good in inculcating analytical reasoning, problem-solving and high-order thinking, fulfilling one of the core expectations of the policy's academic vision. However, when it comes to emotional and social skills, the difference becomes more apparent. CBSE shows a moderate alignment, suggesting that while it does address aspects like Empathy, Communication and Interpersonal relationships there remains scope for further strengthening. MBSE, on the other hand, demonstrates weak alignment in this part by indicating that the curriculum prioritizes more with cognitive skills at the expense of emotional and social development.

The balance of Life Skills follows a similar pattern and CBSE integration is relatively fair by incorporating both thinking and social-emotional learning (SEL) elements. In contrast, MBSE Life Skills distribution is heavily skewed towards critical

thinking, showing an imbalance that shows neglecting other essential skills such as coping with emotions, teamwork, and self-awareness. This overemphasis on one skill can lead to an incomplete skill set among learners, limiting their adaptability in diverse life situations.

Thus, table 4.42 represent that activity integration is another area where the contrast is clear. CBSE provides a good opportunity to students for engagement in hands-on participatory and experiential learning activities while encouraging them to apply knowledge in practical contexts. MBSE on the other hand falls short with inadequate activity integration that could hinder the active internalization of Life Skills. Thus, in terms of potential for holistic development, CBSE approach appears promising by its broader skill coverage and balanced integration across different domains give it the capacity to nurture learners in a more well-rounded manner. MBSE potential too however remains limited due to its narrow skill emphasis, minimal activity-based learning and weaker inclusion of emotional and social dimensions. While it delivers strongly on critical thinking, it does not provide the same breadth of opportunities for developing the full range of competencies envisioned by NEP 2020.

4.5.2. Conclusion

MBSE textbook is more content-heavy, theoretical and exam-focused which offer strong critical thinking and problem-solving opportunities but with very limited experiential learning and social-emotional integration. CBSE textbook while still critical-thinking is dominant, it offers a broader distribution of skills and significantly more activity-based tasks, which better supports NEP 2020's vision of holistic and experiential education. To achieve a truly balanced Life Skills curriculum, MBSE would need to substantially increase activity-based content and enhance social-emotional skill integration while CBSE could benefit from further strengthening underrepresented skills and deepening the quality of certain exercises to ensure they move beyond surface engagement to meaningful application.

4.5.3. Comparing Life Skills Integration in CBSE and MBSE Class – IX Maths Textbook

MBSE Class IX Mathematics textbook is primarily about equipping students with a strong conceptual foundation in mathematics while fostering higher-order thinking skills. It blends clear theoretical explanations with practical examples and varied exercises, ensuring that learners can both understand and apply mathematical ideas effectively. Its bilingual presentation supports NEP 2020's vision of promoting multilingual learning making the content accessible to a wider range of students. Similarly, the CBSE Class IX Mathematics textbook focuses on guiding students through the transition from middle school to more advanced mathematical concepts, maintaining links with previously learned material while introducing greater complexity. Both textbooks, in their own ways are centered on developing students' analytical and problem-solving abilities, with a strong emphasis on thinking skills integrated throughout the chapters.

Table 4.43. Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – IX Maths Textbook

Dimension	CBSE Textbook			MBSE Textbook		
	Content	Activities	Question	Content	Activities	Question
Total Life Skills Items Identified	163	1	174	328	2	515
Total Number of Chapters	12			23		
Highest Represented Skills	Problem – Solving skills			Problem – Solving skills		
Second Highest Skills	Critical Thinking Skills			Critical Thinking skills		
Underrepresented Skills	Decision Making, Interpersonal Relationships, Coping with Emotions, Coping with Stress			Social Skills, Emotional Skills		
Activity-based Skill Items	Minimal			Insignificant		
Distribution Balance	Not fairly distributed and activities are minimal but content and questions contribute significantly.			Activities are almost nonexistent while content and questions dominate the textbook.		

From Table 4.43, the comparison between the MBSE and CBSE Class IX Mathematics textbooks shows a clear emphasis on Thinking Skills, with problem-solving being the most prominent. In the CBSE textbook, 163 items from content, 1 item from activities and 174 items from the question section in which Life Skills instances are identified while the MBSE textbook reflects a similar trend but with a slightly higher count of Life Skills in which 328 items are from the content, 2 items are from the activities and 515 items are from the question section. In both cases, Problem-Solving skills are most extensively integrated and Thinking Skills as a whole receive significant attention. Notably, both textbooks share the similarity of placing Critical Thinking skills as the second most emphasized and embedded skill.

The underrepresented skills had given difference between the two textbook in table 4.43. CBSE shows gaps in Decision-making, Interpersonal relationships, Coping with emotions and Coping with stress skills essential for social adaptability and emotional

resilience while MBSE underrepresentation is broader, encompassing social and emotional skills more generally. This indicates that while CBSE addresses some aspects of emotional and interpersonal competencies (minimally), MBSE provides even less coverage, potentially leaving students less prepared for collaborative, empathetic and emotionally intelligent engagement.

Table 4.43 give a clear picture that when it comes to activity-based skill items, both textbook perform poorly. Though MBSE is particularly weak, CBSE includes minimal activities, meaning opportunities for experiential or participatory learning are present but insufficient to deeply internalize skills. But MBSE, on the other hand is marked by an almost absence of activities, relying heavily on reading content and answering questions. This creates a more passive learning experience, limiting the development of practical real-world application skills. The distribution balance further reinforces that in CBSE textbook the content and questions contribute significantly to skill representation, activities form a small proportion and leading to an uneven spread. MBSE shows an even greater imbalance with activities nearly nonexistent and the textbook overwhelmingly dominated by content and questions. Such a design risks over-reliance on theoretical learning, missing the active engagement strategies that foster deeper understanding and retention of life skills.

Table 4.44. Final Comparative Insights

Criteria	CBSE	MBSE
NEP 2020 Alignment (Cognitive Skills)	Strong	Strong
NEP 2020 Alignment (Emotional & Social Skills)	Moderate	Minimal
Balance of Life Skills	Somewhat balanced with strong cognitive skills and minimal social-emotional elements. SEL needs to be strengthened.	Balance of life skills is poor as critical thinking and problem-solving dominate. While social and emotional skills are largely absent.
Activity Integration	Minimal	Almost non existent
Potential for Holistic Development	Promising	Limited

The comparison of CBSE and MBSE textbooks shows clear differences in Life Skills integration and NEP 2020 alignment at table 4.32. For cognitive skills, both align strongly with NEP 2020 offering rich opportunities for Problem-solving, Critical thinking and analytical reasoning. But in Emotional and Social skills, CBSE shows moderate alignment, incorporating some activities and content to build empathy, communication and collaboration while MBSE has minimal focus leaving a significant gap in these areas.

Table 4.44 shows that in terms of the balance of Life Skills, CBSE presents a somewhat balanced approach, with strong cognitive coverage and some social-emotional learning (SEL) elements though SEL still needs strengthening. MBSE balance in Life Skill is poor as Critical thinking and Problem-solving dominate while emotional and social aspects are mostly absent. This imbalance could limit Interpersonal skills and Emotional resilience among students.

From table 4.44, activity integration is minimal in CBSE but still present, allowing some hands-on and collaborative learning. In contrast, MBSE has almost no activity-based elements with its content heavily emphasized on reading and answering questions,

offering little scope for experiential learning as emphasized in NEP 2020. Regarding the potential for holistic development, CBSE shows promise due to its mix of cognitive focus and some SEL integration though improvement is needed to fully meet NEP 2020 vision. MBSE potential is limited as it focuses narrowly on academics with little scope for social, emotional and creative development

4.5.4. Conclusion

CBSE and MBSE textbooks demonstrate clear strengths in cultivating cognitive skills, particularly through an emphasis on Problem-solving, Critical thinking and analytical reasoning. This alignment with NEP 2020's cognitive learning objectives ensures that students are challenged intellectually and encouraged to engage in deeper more reflective learning. However, the development of emotional and social skills key components of Life Skills education is significantly underrepresented in both. While CBSE integrates these aspects to a moderate extent, MBSE coverage is minimal, leaving a noticeable gap in fostering skills such as Empathy, Communication, Collaboration and Self-awareness. Ensuring a more balanced distribution of Life Skills will not only make the learning process more inclusive and engaging but will also prepare students for real-life challenges beyond academics. A holistic approach that weaves together cognitive, social and emotional dimensions will lead to the development of well-rounded individuals who can think critically, empathize with others, adapt to diverse situations and collaborate effectively. Strengthening SEL, enhancing activity-based learning and creating a more equitable skill distribution will transform both textbooks into powerful tools that fulfil NEP 2020's overarching goal: nurturing learners who are not only academically competent but also emotionally intelligent, socially responsible, and prepared for the demands of the 21st century.

4.5.5. Comparing Life Skills Integration in CBSE and MBSE Class – IX Science Textbook

CBSE and MBSE Class IX Science textbooks serve as valuable resources for building a strong scientific foundation, with content connected to students' real-life experiences. The CBSE textbook is notably content-rich and activity-based, effectively blending theoretical knowledge with practical applications. It encourages active participation and inquiry with a strong focus on developing Thinking Skills particularly Critical Thinking, Creative Thinking and Problem-Solving which are essential for scientific learning and investigation. The MBSE textbook while also covering essential scientific concepts adopts a more conceptual and theoretical approach. It includes a range of chapters aimed at enhancing students' intellectual understanding and emotional awareness. However its structure shows an uneven integration of Life Skills with a predominant emphasis on Thinking Skills and limited or no attention to other equally vital skills necessary for the all-round growth of learners. Both textbooks demonstrate the importance of fostering cognitive abilities, but the narrow representation of Life Skills in the MBSE textbook and to a lesser extent in CBSE indicates a gap in balanced skill development. A more comprehensive inclusion of all core Life Skills aligned with the principles of holistic education would ensure that learners are better equipped with the competencies needed for academic success and real-world challenges.

Table 4.45. Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – IX Science Textbook

Dimension	CBSE Textbook			MBSE Textbook		
	Content	Activities	Question	Content	Activities	Question
Total Life Skills Items Identified	187	101	240	147	31	426
Total Number of Chapters	15			15		
Highest Represented Skills	Critical thinking skills			Critical thinking skills		
Second Highest Skills	Problem solving skills			Problem solving skills		
Underrepresented Skills	NIL			Decision making skills, Self awareness skills, Inter personal relationship skills, Effective communication skills, Coping with emotions		
Activity-based Skill Items	Substantial across chapters			Minimal and inconsistent		
Distribution Balance	Skills are not highly distributed evenly across the content, questions and activities but shows slightly better spread due to its activity based form.			Skills are unevenly distributed throughout the textbook. Some skills dominate certain chapters while other skills are absent.		

Table 4.45 shows the comparison between the CBSE and MBSE Class IX Science textbooks reveals both similarities and notable differences in the integration of Life Skills. In terms of quantity, the MBSE textbook contains a slightly higher number of Life Skill items with 147 items from the content, 31 items from the activities and 426 items from the question section compared to CBSE textbook with 187 items from the content, 101 from the activities and 240 items from the question section. Despite this numerical difference, both textbooks display a similar pattern in skill prioritization. Critical Thinking Skills are the most represented in both, closely followed by Problem-Solving Skills, indicating a shared emphasis on developing learners' reasoning, analytical and cognitive capabilities.

However, table 4.45 also shows a key gap in both textbooks lies in the underrepresentation of essential social and emotional skills. Skills such as Decision Making, Interpersonal Relationships, Coping with Emotions, Coping with Stress, Empathy, Self-awareness and Effective Communication appear infrequently. Their sporadic presence suggests that these competencies are not systematically embedded into the curriculum despite their significance for fostering holistic development and aligning with NEP 2020's vision of balanced skill growth.

Thus, from table 4.45 a major distinction emerges in the use of activity-based skill items. The CBSE textbook features substantial and consistent activities distributed across chapters promoting experiential learning and student engagement. These activities help bridge the gap between theoretical understanding and practical application. In contrast, MBSE shows minimal and inconsistent activity-based skill inclusion, which limits opportunities for hands-on learning and interactive participation. Regarding distribution balance, neither textbook achieves even representation of skills across content, questions and activities. The CBSE textbook shows a slightly better spread due to its structured activities that touch on various skills in different chapters. MBSE distribution however is less balanced with some skills heavily concentrated in certain topics while others are entirely absent.

Table 4.46. Final Comparative Insights

Criteria	CBSE	MBSE
NEP 2020 Alignment (Cognitive Skills)	Strong	Strong
NEP 2020 Alignment (Emotional & Social Skills)	Minimal	Minimal
Balance of Life Skills	Minimal but social and emotional skills needs to be improved.	Less consistent
Activity Integration	Substantial and structured activity integration	Low and sporadic integration
Potential for Holistic Development	Moderate	Moderate

Table 4.46 shows the comparison between CBSE and MBSE Class IX Science textbooks by highlighting clear similarities and differences in their alignment with NEP 2020 and Life Skills integration. Both textbooks demonstrate strong alignment with NEP 2020 in the cognitive skills domain and both textbook encourage thinking abilities such as Problem-solving, Critical thinking and Creativity through the lesson content and question design. However, when it comes to emotional and social skills both textbook show minimal alignment, indicating a gap in incorporating activities and content that nurture empathy, teamwork, self-awareness and interpersonal communication skills which is equally emphasized by NEP 2020 for holistic learner growth.

Table 4.46 give a clear picture that in terms of balance of Life Skills, the CBSE textbook performs better by showing minimal balance but improvement is required in integrating emotional and social competencies more evenly alongside cognitive skills. The MBSE textbook, on the other hand is less consistent with some skills being heavily represented while other skills are somewhat absent, leading to a patchy skill development approach.

The activity integration dimension reveals one of the biggest contrasts and clear from table 4.46 which shows CBSE employs substantial and structured activity integration that complements its cognitive focus by enabling experiential learning and encouraging students to apply concepts in real-life scenarios. MBSE, however has low and sporadic activity integration which limits opportunities for hands-on collaboration and inquiry-based learning. When it comes to the potential for holistic development, both are rated moderate. CBSE structured activities give it a slight edge but the absence of a strong emotional and social skills focus keeps it from reaching high potential. MBSE lack of activity-based learning and inconsistent skill distribution equally restrict its holistic impact.

4.5.6. Conclusion

Both CBSE and MBSE Class IX Science textbooks are strong in cognitive skill development, reflecting NEP 2020's academic priorities. However, both underperform in emotional and social skills integration which limits their ability to achieve true holistic development. CBSE stands out for its structured and substantial activity integration, offering better experiential learning opportunities than MBSE, which suffers from sporadic and limited activities. The Life Skills distribution in CBSE is slightly more balanced, though still needing improvement while MBSE remains inconsistent. Overall, both textbooks require targeted enhancement in emotional, social and experiential dimensions to fully realize NEP 2020 holistic education vision.

4.5.7. Comparing Life Skills Integration in CBSE and MBSE Class – X Social Science Textbook

Class X Social Science textbooks of CBSE and MBSE are comprehensive and well-structured resources that go beyond imparting subject knowledge to actively nurturing essential life competencies. MBSE textbook is particularly notable for systematically integrating all ten WHO recommended Life Skills components ensuring students receive a holistic foundation for both academic success and personal growth. Similarly, the CBSE textbook adopts a learner-centered approach, offering detailed explanations, relatable examples, and creative elements that spark curiosity, strengthen comprehension, and connect classroom learning to real-life issues. Both books emphasize the development of a wide range of skills with Critical Thinking emerging as the most dominant and consistently highlighted skill across their content. These textbooks strike a balance between cognitive and emotional learning, supporting analytical abilities, reflective thinking and decision-making skills. Through illustrations, structured content and skill integration, they not only enhance academic understanding but also prepare learners to engage meaningfully with their environment and meet real-world challenges effectively.

Table 4.47. Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – X Social Science Textbook

Dimension	CBSE Textbook			MBSE Textbook		
Total Life Skills Items Identified	Content	Activities	Question	Content	Activities	Question
	395	64	265	351	12	318
Total Number of Chapters	22			25		
Highest Represented Skills	Critical thinking skills			Critical thinking skills		
Second Highest Skills	Creative thinking skills			Problem solving skills		
Underrepresented Skills	NIL			NIL		
Activity-based Skill Items	Not substantial but moderate integration of Life skills in this textbook			Not substantial either but very weak integration of Life skills in this textbook		
Distribution Balance	Imbalance but inclusive			Imbalance and limited		

Table 4.47 provides a comparative picture of how CBSE and MBSE textbooks integrate Life Skills into the textbook. The total number of Life Skills items identified is slightly higher in CBSE with 395 items from the content, 64 items from the activities and 265 items from the question section while MBSE with 351 items under content section, 12 items under activities and 318 items under question section which indicate that both textbooks attempt to embed Life Skills but CBSE shows a marginal stronger number. In both textbooks, Critical thinking skills emerge as the highest represented dimension, showing a clear curricular emphasis on cognitive engagement and analytical learning. However, the second most represented skill differs with CBSE highlights creative thinking skills while MBSE gives more weight to Problem-solving skills. This indicates a difference in pedagogical orientation in which CBSE encourages exploratory and imaginative approaches whereas MBSE leans toward application-based reasoning.

Table 4.47 shows in terms of activity-based items, neither textbook shows substantial integration. CBSE exhibits moderate and offers some structured opportunities

for learners to practice skills whereas MBSE displays a very weak activity-based integration, limiting student engagement and experiential learning.

The distribution balance also highlights the difference at table 4.47. Even though CBSE shows imbalanced, it still incorporates a wider variety of skills across domains by ensuring inclusivity. MBSE however shows an imbalance with more limited distribution, which may hinder the holistic development envisioned by NEP 2020.

Table 4.48. Final Comparative Insights

Criteria	CBSE	MBSE
NEP 2020 Alignment (Cognitive Skills)	Strong	Strong
NEP 2020 Alignment (Emotional & Social Skills)	Minimal	Minimal
Balance of Life Skills	Imbalance but inclusive	Imbalance and limited
Activity Integration	Moderate but insufficient for real life application	Very weak
Potential for Holistic Development	Moderate - if SEL is strengthened in the textbook	Limited - due to narrow scope and weak activity integration

The comparative insights presented in Table 4.48 highlight the relative strengths and weaknesses of CBSE and MBSE textbooks in integrating Life Skills in line with the NEP 2020 framework. Both textbooks show a strong alignment with cognitive skills, demonstrating a clear emphasis on high-order thinking, particularly Critical thinking, Creative thinking and Problem-solving. This reflects NEP 2020 call for inquiry-based and application-oriented learning. However, the textbooks diverge in other dimensions of Life Skills integration.

Table 4.48 shows that in terms of emotional and social skills both textbooks display minimal alignment. The CBSE textbook provides space for these skills such as Decision-making, Self-awareness, Communication and Interpersonal relationships but the integration is not structured and systematically across the content and activities. In contrast, the MBSE textbook offers even more limited scope for such skills with emotional

and social competencies which is largely weak. This imbalance indicates a continued dominance of cognitive skill development while emotional and social learning remains overlooked. The balance of Life Skills is another area of concern. CBSE though imbalanced it remains more inclusive by attempting to cover multiple domains. MBSE on the other hand is more limited and narrower by focusing heavily on cognitive skills while neglecting other equally important Life Skill dimensions.

Table 4.48 give another picture that activity integration also differs between the two textbook. CBSE shows a moderate level of activities, but these are insufficient to enable real-life application of Life Skills. MBSE is weaker in this respect with very limited activity-based opportunities by restricting experiential and participatory learning that NEP 2020 strongly advocates. Thus, the potential for holistic development is moderate in CBSE provided that if emotional and social learning (SEL) is strengthened and integrated more systematically. MBSE on the other hand demonstrates limited potential due to its narrow scope and very weak activity integration. Thus, while both textbooks advance cognitive learning, CBSE shows relatively greater promise for achieving holistic development compared to MBSE.

4.5.8. Conclusion

The comparative study of CBSE and MBSE Class X Social Science textbooks highlights their strength in promoting cognitive skills, particularly Critical thinking with CBSE further supporting creativity and MBSE emphasizing Problem-solving. This reflects their shared alignment with NEP 2020 focus on inquiry-based and application-oriented learning. However, both textbooks demonstrate clear gaps in emotional and social skills integration with CBSE being more inclusive though uneven and MBSE more restricted in scope. Thus, in terms of activity-based learning, CBSE provides moderate opportunities, but these remain insufficient for real-life application while MBSE shows very weak integration, limiting experiential learning. Such imbalances restrict the holistic development that NEP 2020 envisions. Overall, both textbooks are effective in advancing cognitive growth but CBSE displays greater promise for holistic development.

Strengthening social-emotional learning (SEL) and embedding more structured, activity-based practices would enhance both resources, making them more aligned with NEP 2020 holistic educational goals.

4.5.9. Comparing Life Skills Integration in CBSE and MBSE Class – X Maths Textbook

CBSE and MBSE Class X Mathematics textbooks share a common focus on strengthening learners' mathematical foundations through logical reasoning and problem-solving. The CBSE textbook presents mathematics as more than numbers and formulas, aiming to foster critical, creative and problem-solving skills, while the MBSE textbook is largely theoretical and heavily structured around Problem-solving tasks. Both approaches align with one of the core priorities of NEP 2020 which emphasizes the development of cognitive and analytical skills. However, when examined together it becomes evident that both textbooks give disproportionate emphasis to Thinking Skills, particularly Problem-solving while neglecting other equally vital Life Skills such as Decision-making, Communication, Interpersonal skills, Self-awareness and Coping with stress. This narrow approach limits the scope of holistic development and risks producing learners strong in Mathematics but weak in essential emotional and social competencies. For well-rounded growth these textbooks must integrate a broader range of Life Skills alongside mathematical reasoning.

Table 4.49. Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – X Maths Textbook

Dimension	CBSE Textbook			MBSE Textbook		
Total Life Skills Items Identified	Content 198	Activities 10	Question 274	Content 351	Activities 10	Question 656
Total Number of Chapters	14			19		
Highest Represented Skills	Problem solving skills			Problem solving skills		
Second Highest Skills	Critical thinking skills			Critical thinking skills		
Underrepresented Skills	Decision making skills, Self awareness skills, Inter personal relationship skills, Effective communication skills, Coping with emotions, Coping with stress, Empathy			Decision making skills, Self awareness skills, Inter personal relationship skills, Coping with emotions, Empathy		
Activity-based Skill Items	Not substantial across the textbook			Minimal		
Distribution Balance	Imbalance and heavily skewed towards Problem solving skills			Imbalance and Problem solving skills overwhelmingly dominate the textbook.		

The analysis of Table 4.49 reveals a strong focus on cognitive Life Skills in both CBSE and MBSE textbooks. Problem-solving skills emerge as the most prominently represented in both textbook which is followed by Critical thinking skills. This indicates that both textbooks prioritize analytical reasoning and practical problem-solving which are essential for developing students' logical and mental abilities. In terms of quantity, MBSE identifies 1,017 Life Skills items which is more than double the 482 items recorded in CBSE thus suggesting a broader coverage of Life Skills content in the MBSE textbook.

Despite this, table 4.49 shows that both textbook emphasis on cognitive skills and show a significant underrepresentation of social and emotional skills. Decision-making, Self-awareness, Interpersonal relationships, Effective communication, Coping with emotions, Coping with stress and Empathy receive minimal attention. This gap points to

a lack of focus on the affective and social dimensions of student development which are essential for fostering emotional intelligence, social competence and holistic growth.

Table 4.49 give a picture that activity-based skill integration is limited in both textbooks. In CBSE, such activities are not substantial while in MBSE they are minimal, indicating few opportunities for experiential learning or practical application of Life Skills. Moreover, the distribution of Life Skills is heavily imbalanced in both cases with Problem-solving skills overwhelmingly dominating particularly in MBSE. Thus, while cognitive skills are well-covered, the textbooks lack a balanced approach to integrating social, emotional and interpersonal Life Skills highlighting a need for more comprehensive inclusion to support holistic education in line with NEP 2020.

Table 4.50 Final Comparative Insights

Criteria	CBSE	MBSE
NEP 2020 Alignment (Cognitive Skills)	Strong	Strong
NEP 2020 Alignment (Emotional & Social Skills)	Minimal	Minimal
Balance of Life Skills	Imbalance and stressed more only in specific skills	Highly imbalance
Activity Integration	Substantial across the textbook	Minimal and limited
Potential for Holistic Development	Moderate	Weak

Table 4.50 shows the comparative analysis of CBSE and MBSE Class X Mathematics textbooks highlights both strengths and limitations when evaluated against the framework of NEP 2020 and Life Skills integration. Both textbooks demonstrate strong alignment with NEP 2020 in cognitive skills which is reflected on the emphasis on Problem-solving, reasoning and logical thinking, which are central to mathematics as a discipline. Students are therefore able to build a solid cognitive foundation, crucial for higher education and real-life applications. However, when it comes to emotional and social skills both textbooks show only minimal alignment. Life skills such as Self-

awareness, Empathy, Communication and Coping with stress are largely absent resulting in a narrow focus that fails to fully support holistic learner development.

Table 4.50 shows that in terms of the balance of Life Skills, CBSE textbook shows a degree of diversity by including Critical and Creative thinking alongside Problem-solving. However, the distribution is still imbalanced as it prioritizes thinking skills while overlooking other essential skills. MBSE textbook reflects an even greater imbalance with its content overwhelmingly stressed on Problem-solving and give little importance to other skill domains. These heavily skew limits students' opportunities to develop a broader range of competencies. Another distinction lies in activity integration in which CBSE textbook embeds a substantial number of activities across the textbook, encouraging application, reasoning and active participation. These activities provide learners with opportunities for engagement beyond rote learning. MBSE textbook however, incorporates only minimal activities, leaving the learning process more theoretical, repetitive and less interactive. Thus, when considering the potential for holistic development, CBSE textbook emerges with a moderate potential as it offers scope for critical and creative growth despite its imbalances. MBSE textbook on the other hand shows a weak potential, since its one-dimensional focus on problem-solving severely restricts overall personal and skill development.

4.5.10. Conclusion

CBSE and MBSE Class X Mathematics textbooks clearly shows that while both are strong in promoting cognitive skills in line with NEP 2020; they fall short in addressing the emotional and social dimensions of learning. CBSE demonstrates a more balanced integration of skills though still limited approach, as it includes elements of Critical and Creative thinking alongside Problem-solving. This offers learners moderate scope for developing reasoning and logical skills. However, the overemphasis on thinking skills restricts its ability to nurture the full range of Life Skills. MBSE in contrast is highly one-dimensional by focusing only exclusively on problem-solving with minimal activities and little exposure to other skill areas. As a result, its potential for fostering holistic

development remains weak. The findings suggest that while CBSE makes partial progress, both textbooks require restructuring to better integrate Life Skills and meet the holistic goals of NEP 2020.

4.5.11. Comparing Life Skills Integration in CBSE and MBSE Class – X Science Textbook

CBSE and MBSE Class X Science textbooks adopt both theoretical and practical approaches, aiming to build a strong foundation in scientific knowledge while linking concepts to real-life situations. The CBSE textbook offers comprehensive coverage of physical phenomena, chemical reactions, biological systems and environmental issues. Its focus is not only on academic understanding but also on how science applies in daily life. Critical thinking emerges as the most emphasized skill, though other Life Skills are also present. The inclusion of a diverse range of skills makes the content more inclusive and holistic reflecting efforts to foster balanced development among learners. Meanwhile, MBSE textbook is also structured, with theoretical content and practical exercises which ensures coverage of essential scientific topics that suit learners' age and context. The analysis shows that Life Skills are consistently embedded across the content with Critical thinking given particular importance. A notable strength is that the textbook integrates most of the WHO's ten core Life Skills, indicating its role in supporting students' readiness to meet real-world challenges. Both textbooks strongly highlight the role of science in developing Critical thinking, Problem-solving and practical application of knowledge. CBSE textbook leans towards broader balance by including varied skill sets while MBSE textbook focuses heavily on strengthening Critical thinking. Despite some imbalance in distribution both textbook make a conscious effort to connect scientific learning with Life Skills, thus contributing to cognitive growth and preparing learners for holistic development.

Table 4.51. Quantitative Comparison of WHO Life Skills Integration in CBSE and MBSE class – X Science Textbook

Dimension	CBSE Textbook			MBSE Textbook		
Total Life Skills Items Identified	Content	Activities	Question	Content	Activities	Question
	197	90	186	152	13	390
Total Number of Chapters	13			16		
Highest Represented Skills	Critical thinking skills			Critical thinking skills		
Second Highest Skills	Problem solving skills			Problem solving skills		
Underrepresented Skills	NIL			NIL		
Activity-based Skill Items	Substantial across the textbook			Minimal		
Distribution Balance	Imbalance and heavily skewed towards Problem solving skills			Highly imbalance and SEL needs to be emphasized		

From table 4.51, it is evident that both textbooks identify a significant number of Life Skills items in CBSE textbook 197 items from the content section, 90 items from the activities and 186 are from the question section and in MBSE textbook 152 items are from the content section, 13 items are from the activities and 390 items are from the question section. However, in both textbook the integration is dominated by cognitive skills, especially Critical thinking and Problem solving skills. These two skills form the strongest presence, showing that the focus of both books is largely academic and analytical in nature.

On the other hand, in table 4.51 the Activity-based skill items also show a strong contrast in which CBSE textbook integrates them substantially across chapters by allowing students to actively apply learning while MBSE textbook remains minimal and limited, reducing opportunities for experiential learning. Thus in terms of balance CBSE is described as imbalanced and skewed focusing heavily on Problem-solving, whereas MBSE is highly imbalanced almost overlooking SEL altogether. While both textbooks strongly align with cognitive skills, they fall short in offering a balanced Life Skills

framework. CBSE makes a moderate attempt through activity integration but MBSE lags behind in ensuring holistic development due to weak emphasis on social and emotional skills.

Table 4.52. Final Comparative Insights

Criteria	CBSE	MBSE
NEP 2020 Alignment (Cognitive Skills)	Strong	Strong
NEP 2020 Alignment (Emotional & Social Skills)	Minimal	Minimal
Balance of Life Skills	Imbalance but broader coverage	Highly imbalance but narrower coverage
Activity Integration	Substantial throughout the chapters	Minimal integration
Potential for Holistic Development	Moderate	Moderate

The data in Table 4.52 presents a comparative insight into the integration of Life Skills and NEP 2020 alignment in CBSE and MBSE Class X Science textbooks. Both textbooks show a strong alignment with cognitive skills, reflecting NEP 2020 focuses on developing Critical and Creative thinking, Problem-solving and conceptual clarity. This emphasis ensures that learners are equipped with essential intellectual tools needed for academic achievement. However, when it comes to emotional and social skills, both CBSE and MBSE demonstrate only minimal alignment. Important Life Skills such as Empathy, Interpersonal relationships, Coping with stress and Emotions and Effective communication remain underrepresented. This highlights a major gap in addressing the holistic learning framework envisioned by NEP 2020, which emphasizes not just cognitive but also emotional and social development.

Table 4.52 also shows that in terms of the balance of Life Skills, CBSE textbook offers an imbalanced but broader coverage. While it leans heavily towards cognitive and problem-solving skills, a wider variety of Life Skills are introduced. In contrast, MBSE textbook presents a highly imbalanced and narrower coverage, limiting exposure

primarily to Critical and Problem-solving skills, leaving emotional and social aspects almost untouched. The activity integration in CBSE textbook is substantial, providing opportunities for experiential learning, collaboration and inquiry-based approaches. MBSE textbook on the other hand integrates activities only minimally, reducing scope for active skill-building. Therefore, while both textbooks provide moderate potential for holistic development, CBSE textbook stands out slightly stronger due to its broader skill coverage and structured activity integration. MBSE textbook, though aligned cognitively, needs significant improvement in activity design and inclusion of emotional-social competencies.

4.5.12. Conclusion

The comparative analysis of CBSE and MBSE Class X Science textbooks highlights both strengths and gaps in Life Skills integration in line with NEP 2020. Both textbooks successfully align with the cognitive dimension, emphasizing Critical thinking and Problem-solving as the most represented skills. This reflects a strong academic orientation, ensuring learners develop intellectual and analytical capabilities essential for academic success. However, this overemphasis creates a clear imbalance as emotional and social Life Skills such as Empathy, Interpersonal relationships, Communication, Coping with stress and Self-awareness remain significantly underrepresented in both. This neglect restricts the development of Social and Emotional Learning (SEL), which NEP 2020 identifies as equally critical for preparing students to face real-life challenges. CBSE stands out slightly stronger with its broader though still imbalanced coverage, as it attempts to introduce a wider range of Life Skills and integrates activities more substantially. Its activity-based approach encourages experiential learning, inquiry and collaboration, offering students greater opportunities to apply knowledge in practical contexts. MBSE on the other hand, although identifying a slightly higher number of Life Skill items, provides minimal activity integration and highly skewed emphasis on problem-solving. This reduces opportunities for students to engage actively with the content and weakens their holistic skill development.

Therefore, while both textbooks demonstrate moderate potential for holistic development, CBSE textbook offers a comparatively stronger framework due to structured activity integration and broader coverage. For truly holistic education aligned with NEP 2020, both textbooks must prioritize emotional and social competencies alongside cognitive skills.

PART B (QUANTITATIVE DATA)

4.6. Objective no. 5 : Studying the Perception of the Secondary School Teacher on WHO Ten Core Life Skills Components

To analyze and evaluate the perception of Life Skill among secondary school teacher in Mizoram, the researcher employ Teachers' Life Skill Assessment scale which was constructed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal. The analysis process involved organizing the participants' level of Life Skills and this is presented in Table 4.53 and Figure 4.2 given below. The data below displays the number and percentage of participants within each level of Life Skills. Notably, the norms had already been defined for these levels, as presented in chapter 3 table no 3.17.

Thus, Teachers' Life Skills Assessment scale prepared by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal was employed to carry out and assess the overall levels and component wise level of Life Skill of secondary school teachers in Mizoram which are clearly shown in Table 4.53 and Figure 4.2, with reference to the defined norms prior to the table 3.17 given in chapter 3.

Table 4.53. Overall Levels of Secondary School Teacher (CBSE&MBSE) Perception towards WHO Life Skill

Components	N	Mean	SD	Extremely High	High	Above Average	Average	Below Average	Low	Extremely Low
Life Skill	83	202.30	20.022	6 (7.22 %)	2 (2.41 %)	16 (19.27 %)	32 (38.55 %)	21 (25.30 %)	6 (7.22 %)	1 (1.20 %)

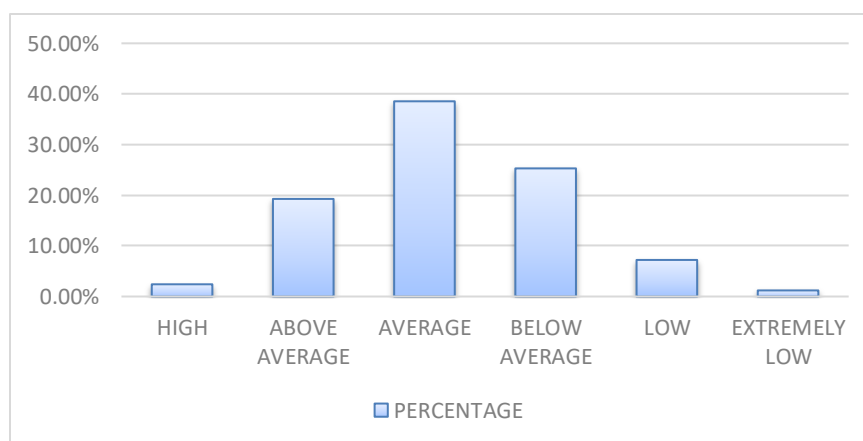


Fig 4.2. Overall Levels of Secondary School Teacher (CBSE&MBSE) Perception towards WHO Life Skill

From table 4.53 and figure 4.2 given above, it shows the distribution of secondary school teachers' perception towards their Life Skill levels based on a sample of 83 teachers. The mean score is 202.30 and a standard deviation of 20.022, which give a moderate variation in the perception of secondary school teacher towards Life Skill. Thus, only 7.22 percent fall in the extremely high category while 2.41 percent belong to the high category. Besides, 19.27 percent are above the average which indicate a better-than-typical Life Skill levels. The largest number 38.55 percent are given in the average level which shows that most secondary school teachers demonstrate moderate perception towards Life Skills close to the mean score. Thus, about 25.30 percent belong to below average, 7.22 percent are low and 1.20 percent are extremely low. Overall, the distribution is stressed around the average, but with a significant number of secondary school teachers below this level, indicating scope for improvement in the perception of Life Skills among secondary school teachers.

Table 4.54. Dimension wise Level of Secondary School Teacher (CBSE&MBSE) Perception towards WHO Life Skill

Dimension	N	Extremely High	High	Above Average	Average	Below Average	Low	Extremely Low
Communication	83	2 (2.41%)	9 (10.84%)	11 (13.25%)	33 (39.75%)	14 (16.86%)	14 (16.86%)	0%
Collaboration	83	1 (1.20%)	8 (9.64%)	17 (20.48%)	34 (40.96%)	15 (18.07%)	6 (7.23%)	2 (2.41%)
Creative Thinking	83	3 (3.61%)	6 (7.23%)	8 (9.64%)	39 (46.98%)	17 (20.48%)	9 (10.84%)	1 (1.20%)
Critical Thinking	83	4 (4.82%)	3 (3.61%)	19 (22.89%)	32 (38.55%)	19 (22.89%)	4 (4.82%)	2 (2.41%)

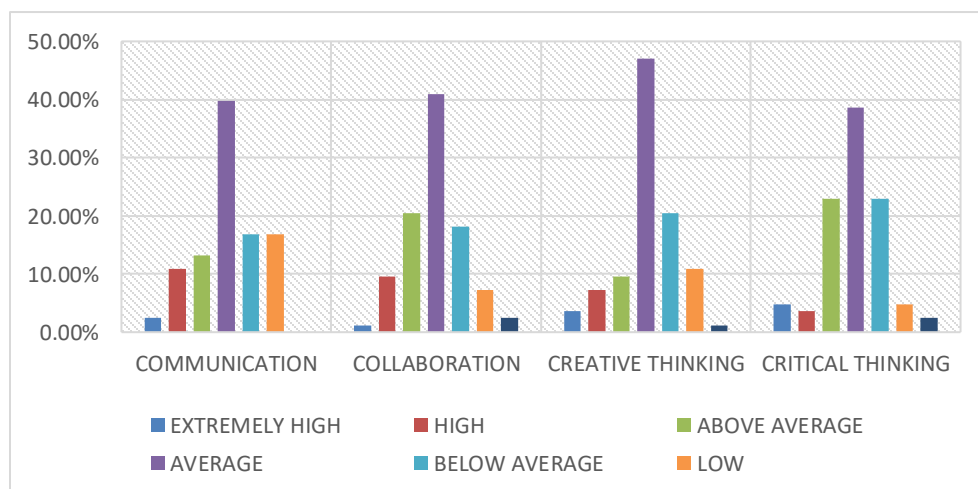


Fig 4.3. Dimension wise Level of Secondary School Teacher (CBSE&MBSE) Perception towards WHO Life Skill in Mizoram

Table 4.54 clearly shows that secondary school teacher in Mizoram shows a clear picture that majority of the teachers have a moderate perception towards WHO ten core Life Skills Communication Skills with only 2.41 percent of teachers belong to extremely high level and 10.84 percent are at the high level, while 13.25 percent are identified under above average. The largest percentage of 39.75 percent belong to the average category and 16.86 percent each belong to the below average and low categories and in the extremely low category there is zero number and no teachers falling under this. This indicates that while most teachers have moderate perception towards WHO ten core Life Skills communication skills, there is a noticeable number of score below the average.

From table 4.54 given above, it clearly shows that under the Collaboration skill dimension, only 1.20 percent of teacher perception towards the WHO ten core Life Skill is under extremely high category and 9.64 percent belong to the high category, while 20.48 percent are identified under above average category. The majority 40.96 percent are identified at the average level which was followed by 18.07 percent below average and 7.23 percent under low category and 2.41 percent under extremely low category. This suggests that collaborative skills are generally concentrated around the average, with a small proportion excelling and a considerable number performing below the expected level.

The above table 4.54 shows that Under Creative thinking skill dimension, 3.61 percent of the secondary school teacher perception towards the skill shows extremely high and 7.23 percent under high category, while 9.64 percent are under above average. Thus, almost half of the respondents, 46.98 percent are identified in the average category and 20.48 percent are identified under below average while 10.84 percent are under low category and 1.20 percent are identified under extremely low category. This pattern indicates that while creative thinking is strongest in the average range, there is a meaningful proportion in the result.

Furthermore, from table 4.54 it shows a clear picture of the teacher perception under Critical thinking skill dimension, 4.82 percent of teachers perception falls at the

extremely high level and 3.61 percent are at the high level, while 22.89 percent are identified at above average category. The biggest percent 38.55 percent is extracted at the average level which is followed by 22.89 percent under below average and 4.82 percent are under low category and 2.41 percent are identified at the extremely low category. This distribution shows that teacher perception towards critical thinking skills has a slightly higher proportion of secondary school teachers in the above average category compared to other dimensions, yet still a considerable proportion is below average.

4.6.1. Difference among Secondary School Teachers' Perception Towards Life Skills of Mizoram with reference to Board

Hypothesis 1 states that there is no significant difference in the perception of secondary school teacher towards Life Skills with regard to Board i.e., CBSE and MBSE.

Table 4.55 illustrates the differences in Life Skills perception of secondary school teacher of CBSE and MBSE in Mizoram.

Table 4.55. Difference in the Perception of Life Skills of Secondary School Teachers of Mizoram with reference to Board (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
CBSE	34	211.21	19.817	15.083	3.615	0.01*
MBSE	49	196.12	17.881			

The following analysis is obtained from the comparative statistic above.

Analysis of the data from table 4.55 clearly shows that the 't' value shows a significant difference in the perception of secondary school teacher towards Life Skills among the two boards (CBSE&MBSE) with 3.615 respectively. As the given 't' value transcends the criterion 't' value, it can be said that there is a significant difference in the perception of Life Skills of secondary teachers with respect to their board. Thus, the null hypothesis stating that there is no significant difference in the perception of Life Skills of secondary school teachers with regard to Board is rejected which clearly shows that the

two groups has given significant difference at a confidence level of 0.01. Thus, according to the mean difference given, it suggests that teachers in CBSE are having significantly higher perception towards life skills compared to those MBSE schools teachers.

A. Difference in the Communication Skills of Secondary School Teachers Perception of Life Skills of Mizoram with reference to Board

Hypothesis 2 states that there is no significant difference in the Communication Skills of secondary school teachers perception of Life Skills with regard to Board i.e., CBSE and MBSE.

Table 4.56 illustrates there is no differences in the perception towards communication skills between CBSE and MBSE of secondary school teachers in Mizoram.

Table 4.56. Difference in the Communication Skills of Secondary School teachers Perception of Life Skills of Mizoram with reference to Board (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
MBSE	49	48.45	5.389	2.198	1.715	NS
CBSE	34	50.65	6.223			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.56 indicates that the calculated ‘t’ value of 1.715 which does not reflect a significant difference in the perception of secondary school teacher towards communication skills between the two boards. Since this value is lower than the critical ‘t’ values at both level 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the perception of secondary school teachers towards communication skills based on their board. Therefore, the null hypothesis which states that there is no significant difference in the perception of secondary school teachers towards communication skills with respect to board is accepted. This confirms that the two groups do not differ significantly at either confidence level.

The findings suggest that teachers in CBSE and MBSE exhibit comparable levels of communication skills.

**B. Difference in the Collaboration Skills of Secondary School Teachers
Perception of Life Skills of Mizoram with reference to Board**

Hypothesis 3 states that there is no significant difference in the Collaboration Skills of secondary school teachers perception of life skills with regard to Board i.e., CBSE and MBSE.

Table 4.57 illustrates the differences in Collaboration skills between CBSE and MBSE of secondary school teachers in Mizoram.

***Table 4.57. Difference in the Collaboration Skills of Secondary School teachers
Perception of Life Skills of Mizoram with reference to Board (CBSE&MBSE)***

Groups	N	Mean	SD	MD	t-value	Sig. level
MBSE	49	43.57	5.370	2.37	1.977	0.05*
CBSE	34	45.94	5.371			

The following analysis is obtained from the comparative statistic above.

Analysis of the data from table 4.57 clearly shows that the ‘t’ value reveals a significant difference in collaboration skills among the two board with 1.977 respectively. As the given ‘t’ value transcends the criterion ‘t’ value, it can be sum up that there is a significant difference in the secondary teachers perception towards collaboration skills with respect to board. Thus, the null hypothesis stating that there is no significant difference in the Collaboration Skills of secondary school teachers with regard to Board is rejected which clearly shows that the two groups has given substantial significant difference at a confidence level of 0.05. Thus, according to the mean difference given, it suggests that teachers in CBSE possess significantly higher collaboration skills towards WHO Life Skills compared to those in MBSE schools.

C. Difference in the Creative Skills of Secondary School Teachers Perception of Life Skills of Mizoram with reference to Board

Hypothesis 4 states that there is no significant difference in the Creative Skills of secondary school teachers perception of life skills with regard to Board i.e., MBSE and CBSE.

Table 4.58 illustrates the differences in Creative skills between CBSE and MBSE of secondary school teachers perception of Life Skills in Mizoram.

Table 4.58. Difference in the Creative Skills of Secondary School teachers Perception of life skills of Mizoram with reference to Board (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
MBSE	49	48.29	5.849	5.008	3.902	0.01*
CBSE	34	53.29	5.606			

The following analysis is obtained from the comparative statistic above.

Analysis of the data from table 4.58 clearly shows that the ‘t’ value reveals a significant difference in creative skills among the two board with 3.902 respectively. As the given ‘t’ value transcends the criterion ‘t’ value, it can be sum up that there is a significant difference in the creative skills of secondary teachers with respect to board. Thus, the null hypothesis stating that there is no significant difference in the Creative Skills of secondary school teachers perception with regard to Board is rejected which clearly shows the two groups has given substantial significant difference at a confidence level of 0.01. Thus, according to the mean difference given, it suggests that teachers in CBSE possess significantly higher perception towards creative skills compared to those in MBSE schools.

D. Difference in the Critical Skills of Secondary School Teachers Perception of Life Skills of Mizoram with reference to Board

Hypothesis 5 states that there is no significant difference in the Critical Skills of secondary school teachers perception of life skills with regard to Board i.e., MBSE and CBSE.

Table 4.59 illustrates the differences in Critical skills between CBSE and MBSE of secondary school teachers perception of Life Skills in Mizoram.

Table 4.59. Difference in the Critical Skills of Secondary School teachers Perception of Life Skills of Mizoram with reference to Board (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
MBSE	49	55.82	6.412	5.507	3.730	0.01*
CBSE	34	61.32	6.901			

The following analysis is obtained from the comparative statistic above.

Analysis of the data from table 4.59 clearly shows that the ‘t’ value reveals a significant difference in critical skills among the two board with 3.730 respectively. As the given ‘t’ value transcends the criterion ‘t’ value, it can be sum up that there is a significant difference in the critical skills of secondary teachers with respect to board. Thus, the null hypothesis stating that there is no significant difference in the Critical Skills of secondary school teachers perception with regard to Board is rejected which clearly shows the two groups has given substantial significant difference at a confidence level of 0.01. Thus, according to the mean difference given, it suggests that teachers in CBSE possess significantly higher perception towards critical skills compared to those in MBSE schools.

Thus, the findings indicate that differences exist among secondary school teachers based on their educational boards, with CBSE teachers demonstrating higher perception Life Skills compared to MBSE teachers as reflected in the mean scores. The statistical

analysis further highlights that across several dimensions CBSE teachers perform better. They show stronger perception towards Communication Skills than their MBSE counterparts. Similarly, in Collaboration CBSE teachers perception again surpass MBSE teachers, suggesting a stronger capacity for teamwork and cooperative engagement. However, when it comes to Creative Skills, MBSE teachers perception demonstrate comparatively higher scores, indicating that they possess a stronger perception inclination toward innovative and original approaches. Despite this, the overall results present a clear advantage for CBSE teachers who outperform MBSE teachers in multiple dimensions of life skills. This suggests that CBSE teachers are benefitting from better opportunities, exposure and professional training, especially at the secondary school level.

4.6.2. Difference in Life Skills Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Gender

Hypothesis 6 states that there is no significant difference among secondary school teachers perception of Life Skills with regard to Gender i.e., Male and Female.

Table 4.60 illustrates there is no differences in Life Skills between Male and Female of secondary school teachers in Mizoram.

Table 4.60. Difference in Life Skills Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Gender (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.Level
Male	47	205.23	21.748	6.762	1.537	NS
Female	36	198.47	17.059			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.60 indicates that the calculated ‘t’ value of 1.537 which does not reflect a significant difference in Life Skills among the given gender. Since this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Life Skills of

secondary teachers perception based on gender. Therefore, the null hypothesis which states that there is no significant difference in the communication skills of secondary school teachers perception with respect to gender is accepted. This confirms that the two groups do not differ significantly at either confidence level. The findings suggest that teachers in CBSE and MBSE exhibit comparable levels of Life Skills.

4.6.3. Difference Among Secondary School Teachers Perception of Life Skills of Mizoram with reference to District – wise

Hypothesis 7 states that there is no significant difference among secondary school teachers perception of Life Skills with regard to District – wise i.e., Aizawl, Lunglei, Champhai, Kolasib and Mamit.

Table 4.61 illustrates there is no differences in Life skills among the five districts of secondary school teachers in Mizoram.

Table 4.61. Difference in the Life Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to District – wise (CBSE&MBSE)

Groups	Sum of Squares	df	Mean Squares	F-value	P-value	Remarks
Between groups	206.692	4	51.673	0.123	0.974	NS
Within groups	32666.778	78	418.805			
Total	32873.470	82				

The following ANOVA analysis is obtained from the comparative statistic above.

The above table 4.61 reflect that the calculated F – value for the effects of Secondary School Teachers perception of Life Skills on the district -wise among Mizoram is 0.123 which is relatively lower than the criterion F – value 2.486 and null hypothesis that there is no significant difference is accepted. Thus, this indicate that there is no significant impact upon Life Skills among secondary school teachers with regard to District – wise.

4.6.4. Difference Among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Educational Qualification

Hypothesis 8 states that there is no significant difference among secondary school teachers perception of Life Skills with regard to Educational Qualification i.e., Graduate and Undergraduate.

Table 4.62 illustrates the differences in Life skills among the educational qualification of secondary school teachers in Mizoram.

Table 4.62. Difference in the Life Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
Undergraduate	39	196.82	20.361	10.339	2.416	0.05*
Postgraduate	44	207.16	18.621			

The following analysis is obtained from the comparative statistic above.

Analysis of the data from table 4.62 clearly shows that the ‘t’ value reveals a significant difference in the perception of secondary school teachers towards Life Skills among the educational qualifications of secondary school teachers with 2.416 respectively. As the given ‘t’ value transcends the criterion ‘t’ value, it can be sum up that there is a significant difference in the perception of Life Skills of secondary teachers with respect to educational qualification. Thus, the null hypothesis stating that there is no significant difference in the Life Skills of secondary school teachers perception with regard to Educational Qualification is rejected which clearly shows the two groups has given substantial significant difference at a confidence level of 0.05. Thus, according to the mean difference given, it suggests that Post graduate teachers perception possess significantly higher Life Skills compared to those Under graduate teachers.

A.Difference in the Communication Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification

Hypothesis 9 states that there is no significant difference in Communication Skills among secondary school teachers with regard to Educational Qualification i.e., Graduate and Undergraduate.

Table 4.63 illustrates there is no differences in Communication skills in the educational qualification of secondary school teachers perception in Mizoram.

Table 4.63. Difference in the Communication Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
Undergraduate	39	49.00	5.754	0.659	0.513	NS
Postgraduate	44	49.66	5.910			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.63 indicates that the calculated ‘t’ value of 0.513 does not reflect a significant difference in communication skills among the educational qualifications of the secondary school teacher perception. Since this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the communication skills of secondary teachers perception based on educational qualification. Therefore, the null hypothesis which states that there is no significant difference in the communication skills of secondary school teachers perception with respect to qualification is accepted. This confirms that the two groups do not differ significantly at either confidence level. The findings suggest that teachers possess undergraduate and postgraduate does not exhibit comparable levels of communication skills.

**B. Difference in the Collaboration Skills among Secondary School Teachers
Perception of Life Skills of Mizoram with reference to Qualification**

Hypothesis 10 states that there is no significant difference among secondary school teachers perception towards Collaborative skills with regard to Educational Qualification i.e., Graduate and Undergraduate.

Table 4.64 illustrates the differences in Collaboration skills in the educational qualification of secondary school teachers perception of Life Skills in Mizoram.

Table 4.64. Difference in the Collaboration Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
Undergraduate	39	43.36	6.141	2.232	1.886	NS
Postgraduate	44	45.59	4.607			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.64 indicates that the calculated ‘t’ value of 1.886 does not reflect a significant difference among the educational qualifications of the secondary school teacher perception towards collaboration skills. Since this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference of secondary teachers perception towards Collaborative skills based on educational qualification. Therefore, the null hypothesis which states that there is no significant difference in the collaboration skills of secondary school teachers with respect to qualification is accepted. This confirms that the two groups do not differ significantly at either confidence level. The findings suggest that teachers possess undergraduate and postgraduate does not exhibit comparable levels of collaboration skills.

**C. Difference in the Creative Skills among Secondary School Teachers
Perception of Life Skills of Mizoram with reference to Qualification**

Hypothesis 11 states that there is no significant difference among secondary school teachers perception towards Creative Skills with regard to Educational Qualification i.e., Graduate and Undergraduate.

Table 4.65 illustrates the differences in the educational qualification of secondary school teachers perception towards Creative skills in Mizoram.

***Table 4.65. Difference in the Creative Skills among Secondary School Teachers
Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)***

Groups	N	Mean	SD	MD	t-value	Sig.level
Undergraduate	39	48.26	5.408	3.925	3.002	0.01*
Postgraduate	44	52.18	6.384			

The following analysis is obtained from the comparative statistic above.

Analysis of the data from table 4.65 clearly shows that the ‘t’ value reveals a significant difference in creative skills among the secondary school teachers with regard to qualification with 3.002 respectively. As the given ‘t’ value transcends the criterion ‘t’ value, it can be sum up that there is a significant difference among the secondary teachers towards Creative skills with respect to qualification. Thus, the null hypothesis stating that there is no significant difference in the Creative Skills of secondary school teachers with regard to Qualification is rejected which clearly shows the two groups has given substantial significant difference at a confidence level of 0.01. Thus, according to the mean difference given, it suggests that Post graduate teachers possess significantly higher creative skills compared to Undergraduate teachers.

D. Difference in the Critical Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification

Hypothesis 12 states that there is no significant difference among secondary school teachers perception towards Critical skills with regard to Educational Qualification i.e., Graduate and Undergraduate.

Table 4.66 illustrates the differences in the educational qualification of secondary school teachers perception towards Critical skills in Mizoram.

Table 4.66. Difference in the Critical Skills among Secondary School Teachers Perception of Life Skills of Mizoram with reference to Qualification (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
Undergraduate	39	56.21	7.543	3.522	2.309	0.05*
Postgraduate	44	59.73	6.352			

The following analysis is obtained from the comparative statistic above.

Analysis of the data from table 4.66 clearly shows that the ‘t’ value reveals a significant difference among the secondary school teachers perception towards Critical skills with regard to qualification with 2.309 respectively. As the given ‘t’ value transcends the criterion ‘t’ value, it can be sum up that there is a significant difference among the secondary teachers perception towards Critical skills with respect to qualification. Thus, the null hypothesis stating that there is no significant difference in the Critical Skills of secondary school teachers with regard to Qualification is rejected which clearly shows the two groups has given substantial significant difference at a confidence level of 0.05. Thus, according to the mean difference given, it suggests that Post graduate teachers possess significantly higher critical skills compared to Undergraduate teachers.

The statistical findings clearly indicate that among secondary school teachers in Mizoram, those holding a Postgraduate degree achieve higher scores compared to teachers with only an Undergraduate degree in terms of their integration and perception of Life

Skills education. The results suggest that advanced qualification provides teachers with broader exposure, deeper understanding and better capacity to integrate Life Skills into their teaching practices. Furthermore, the dimension-wise analysis reveals that Postgraduate teachers outperform Undergraduate teachers particularly in Creative skills and Critical skills. This highlights that higher academic qualification not only enhances overall perception of Life Skills education but also strengthens essential skills like innovation, problem-solving and analytical thinking, which are crucial for effective teaching and student development.

4.6.5. Difference in the Life Skills among Secondary School Teachers of Mizoram with Reference to Locality

Hypothesis 13 states that there is no significant difference among secondary school teachers perception towards Life Skills with regard to Locality i.e., Metro, Urban and Rural.

Table 4.67 illustrates the differences in Life Skills in the locality of secondary school teachers in Mizoram.

Table 4.67. Difference in the Life Skills among Secondary School Teachers of Mizoram with reference to Locality

Groups	Sum of Squares	df	Mean Squares	F-value	P-value	Remarks
Between groups	148.471	2	74.236	0.181	0.834	NS
Within groups	32724.999	80	409.062			
Total	32873.470	82				

The following ANOVA analysis is obtained from the comparative statistic above.

The above table 4.67 reflect that the calculated F – value for the effects of Life Skills locality among Secondary School Teachers of Mizoram is 0.181 which is relatively lower than the criterion F – value 3.111 and null hypothesis that there is no significant

difference is accepted. Thus, this indicate that there is no significant impact upon Life Skills among secondary school teachers with regard to Locality.

4.7. Objective no. 6 : Studying the Awareness Level of Secondary School Students Towards WHO Life Skills Components

To analyze and evaluate the awareness level of Life Skill among secondary school students in Mizoram, the researcher employ Life Skill Awareness tool which was constructed by the researcher. The analysis process involved organizing the participants' level of Life Skills and this is presented in Table 4.68 and Figure 4.4 given below. The data below displays the number and percentage of participants within each level of life skills. Notably, the researcher had already defined the norms for these levels, as presented in chapter 3 table no 3.15.

Thus, Life Skills awareness tool prepared by the investigator was employed to carry out and assess the overall level and component wise level of Life Skill of secondary school students in Mizoram which are clearly shown in Table 4.68 and Figure 4.4, with reference to the defined norms prior to the table given.

Table 4.68. Overall Levels of Secondary Student Life Skill

Component	N	Mean	SD	High	Average	Low
Life Skill	1014	138.60	14.828	97 (9.57%)	804 (79.29%)	113 (11.14%)

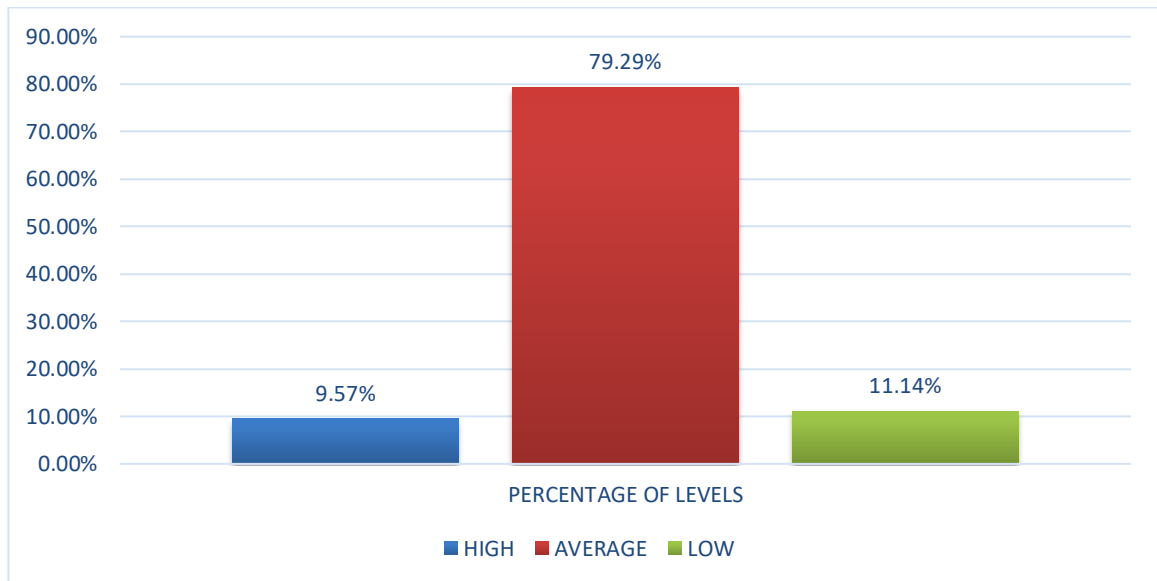


Figure 4.4. Levels of Life Skills of Secondary School Students in Mizoram

From Table 4.68 and Figure 4.4 given above, it gives a clear picture that out of 1014 responses, secondary school students in Mizoram have moderate level of Life Skills which comprises of the highest percentage with 79.29%. The table shows further that 9.57% have high level of Life Skills but on the contrary 11.14% have poor level of Life Skills. The mean score of awareness level of Life Skill of secondary school students in Mizoram is 138.60 and standard deviation is 14.828 respectively. The table and figure clearly present the true picture that more than half of the secondary students in Mizoram have average/ moderate level of Life Skills but those students who are having high and low/poor level of Life Skills are in proximity to each other.

Table 4.69. Levels of Thinking skill, Social skill and Emotional skill of Secondary School Student in Mizoram

Components	N	High	Average	Low
1.Thinking Skills	1014	96 (9.46%)	811 (79.98%)	107 (10.55%)
<i>Critical thinking</i>	1014	124 (12.23%)	807 (79.59%)	83 (8.19%)
<i>Creative thinking</i>	1014	108 (10.65%)	824 (81.26%)	82 (8.09%)
<i>Problem solving</i>	1014	105 (10.36%)	777 (76.63%)	132 (13.02%)
<i>Self-awareness</i>	1014	32 (3.16%)	859 (84.71%)	123 (12.13%)
<i>Decision-making</i>	1014	65 (6.41%)	832 (82.05%)	117 (11.54%)
2. Social Skills	1014	83 (8.19%)	849 (83.73%)	82 (8.08%)
<i>Inter-personal relationship</i>	1014	96 (9.47)	852 (84.02%)	66 (6.51%)
<i>Effective communication</i>	1014	114 (11.24%)	813 (80.18%)	87 (8.58%)
3. Emotional Skills	1014	83 (8.18%)	818 (80.67%)	113 (11.14%)
<i>Coping with Emotions</i>	1014	46 (4.54%)	877 (86.49%)	91 (8.97%)
<i>Coping with Stress</i>	1014	83 (8.18%)	860 (84.81%)	71 (7.00%)
<i>Empathy</i>	1014	107 (10.55%)	808 (79.68%)	99 (9.76%)

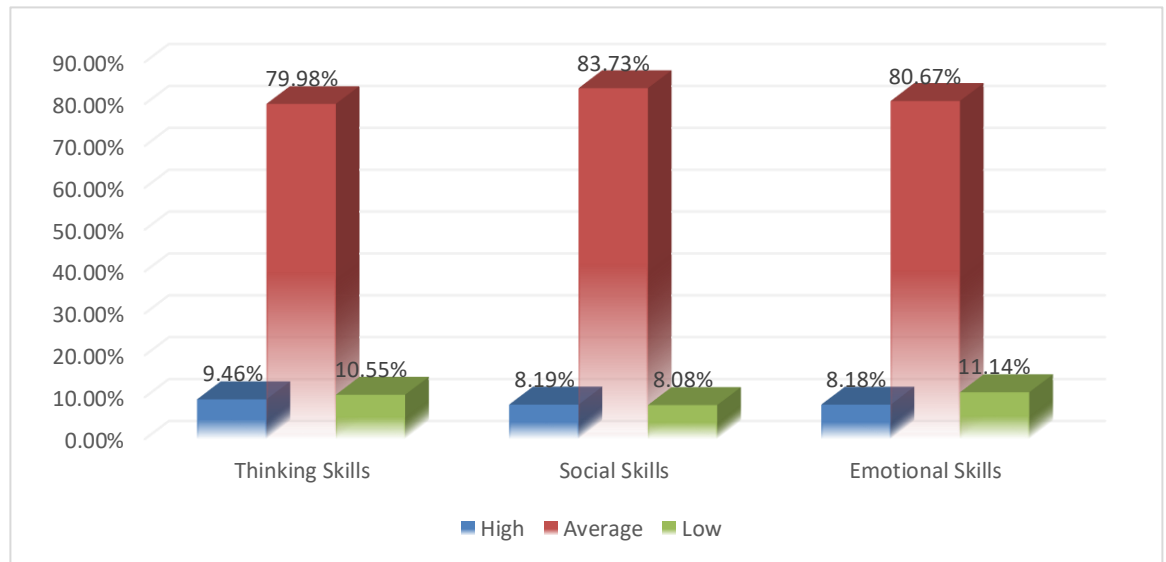


Figure 4.5. Levels of Thinking skill, Social skill and Emotional skill of Secondary School Student in Mizoram

Table 4.69 clearly shows that secondary school students in Mizoram shows a clear picture that majority of the students have a moderate level of Thinking Skills with 79.98% while 9.46% have a high level of Thinking skills and 10.55% have poor level of Thinking skills.

Pertaining to the components within the domain of Thinking skills:

- (i) Under Critical thinking skills, a high level percentage of 79.59 percent of secondary students have average level of critical thinking skills while 12.23 percent of secondary students have good level of critical thinking skills and 8.19 percent exhibit poor level of critical thinking skills.
- (ii) A significant proportion of secondary students 81.26 percent have average level of creative thinking abilities, whereas 10.65 percent demonstrate good level of creative ability and 8.09 percent demonstrate poor abilities.
- (iii) Of the pupils, 76.63 percent have average level of problem-solving abilities, 10.36 percent have good level of problem-solving abilities, and 13.02 percent have low abilities.

- (iv) 84.71 percent have a high level percentage of moderately skilled self-awareness, 3.16 percent have good level of self-awareness and 12.13 percent have poor skill.
- (v) A significant proportion of 82.05 percent indicates that pupils have moderate level of decision-making abilities, whereas 6.41 percent demonstrate good level of decision-making skills and 11.54 percent demonstrate poor skills.

The table shows another picture that secondary school students shows moderate level of Social Skills by constituting a big percentage of 83.73 percent while 8.19 percent of students have good level of Social skills and 8.08 percent shows poor level of Social skills.

Pertaining to the components within the domain of Social skills:

- (i) A high number of 84.02 percent indicates that secondary students have Interpersonal relationship skills that are moderate level, whereas 9.47 percent have good skills and 6.51 percent have poor skills.
- (ii) The largest percentage, 80.13 percent, indicates that secondary school pupils have moderate level of Effective Communication abilities, while 11.24 percent have good level of communication skills and 8.58 percent have weak level of communication skills.

Looking at table 4.69, a clear picture is given that secondary school students show moderate level of Emotional Skills with a high percentage of 80.67 percent, followed by 8.18 percent with a good level of Emotional skills and 11.14 percent with low level of Emotional skills.

Pertaining to the components within the domain of Emotional skills:

- (i) A high percentage of 86.49 percent implies that secondary students have moderate level of Coping with emotions, 4.54% suggest that the students have good level of emotional intelligence and 8.97% indicate that the students have bad level of emotional intelligence.

- (ii) With 84.81 percent which is high in number indicates that the students have moderate level of Coping with stress skills while 8.18 percent depicts that the students have good level of Coping with stress ability and 7.00 percent shows that the students have poor level of Coping with stress skills.
- (iii) A large number of 79.68 percent comes under moderate level which shows that the students have average Empathy skills while 10.55 percent depict that the students have good level of Empathy skills and 9.76 percent shows a poor level of skills in Empathy.

4.7.1. Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Class (Class IX & Class – X)

Hypothesis 1 states that there is no significant difference in the Life Skills Awareness Level of secondary school students with regard to Class i.e., class – IX and class – X.

Table 4.70 illustrates the differences in life skills awareness level between Class – IX and Class – X of secondary school students in Mizoram.

Table 4.70. Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)

Groups	N	Mean	SD	MD	t-value	Sig.level
Class – IX	572	136.31	14.888	5.245	5.670	0.01*
Class – X	442	141.55	14.232			

The following analysis is obtained from the comparative statistic above.

Analysis of the data from table 4.70 clearly shows that the ‘t’ value reveals a significant difference in Life Skills awareness level among the two classes with 5.670 respectively. As the given ‘t’ value transcends the criterion ‘t’ value, it can be sum up that there is a significant difference in the Life Skills awareness level of secondary students

with regard to class. Thus, the null hypothesis stating that there is no significant difference in the Life Skills Awareness Level of secondary school students with regard to Class is rejected which clearly shows the two groups has given substantial significant difference at a confidence level of 0.01. Thus, according to the mean difference given, it suggests that students in Class X possess significantly higher Life Skills awareness level compared to those in Class IX.

A.Difference in the Thinking Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)

Hypothesis 2 states that there is no significant difference in the Thinking Skills level of secondary school students with regard to Class i.e., class – IX and class – X.

Table 4.71 illustrates the differences in Thinking skills level between Class – IX and Class – X of secondary school students in Mizoram.

Table 4.71. Difference in the Thinking Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)

Groups	N	Mean	SD	MD	t-value	Sig.level
Class – IX	572	68.88	8.848	0.806	1.435	NS
Class – X	442	68.07	8.893			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.71 indicates that the calculated ‘t’ value of 1.435 does not reflect a significant difference in Thinking skills level between the two classes. Since this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Thinking skills level of secondary students based on class. Therefore, the null hypothesis which states that there is no significant difference in the Thinking skills level of secondary school students with respect to class is accepted. This confirms that the two groups do not differ significantly at either confidence level. The findings suggest that students in Class

IX and Class X exhibit comparable levels of Thinking skills difference among Secondary School student of Mizoram with reference to Board.

B. Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)

Hypothesis 3 states that there is no significant difference in the Social Skills level of secondary school students with regard to Class i.e., class – IX and class – X.

Table 4.72 illustrates the differences in Social skills level between Class – IX and Class – X of secondary school students in Mizoram.

Table 4.72. Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)

Groups	N	Mean	SD	MD	t-value	Sig.level
Class – IX	572	24.76	4.159	0.288	1.107	NS
Class – X	442	25.05	4.052			

The following analysis is obtained from the comparative statistic above.

The data analysis in Table 4.72 reveals that the computed ‘t’ value of 1.107 does not indicate a significant difference in Social skills level between the two classes. As this value falls below the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be inferred that there is no meaningful statistical difference in the Social skills level of secondary students based on their class. Accordingly, the null hypothesis stating that there is no significant difference in the Social skills level of secondary school students with respect to class is accepted. This outcome confirms that the two groups do not show any substantial difference at either confidence level. Thus, the results suggest that students in Class IX and Class X possess similar levels of Social skills.

C. Difference in the Emotional Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)

Hypothesis 4 states that there is no significant difference in the Emotional Skills level of secondary school students with regard to Class i.e., class – IX and class – X.

Table 4.73 illustrates the differences in Social skills level between Class – IX and Class – X of secondary school students in Mizoram.

Table 4.73. Difference in the Emotional Skills Level of Secondary School student of Mizoram with reference to Class (Class IX & Class – X)

Groups	N	Mean	SD	MD	t-value	Sig.level
Class – IX	572	42.82	4.422	0.964	2.763	0.01*
Class – X	442	41.86	6.659			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.73 clearly indicates that the calculated ‘t’ value of 2.763 signifies a statistically significant difference in Emotional skills level between the two classes. Since this value exceeds the critical ‘t’ value, it can be concluded that there is a significant difference in the Emotional skills level of secondary students based on their class. Therefore, the null hypothesis which states that there is no significant difference in the Emotional skills level of secondary school students with respect to class is rejected. This finding confirms a substantial difference between the two groups at the 0.01 confidence level. Based on the observed mean difference, it is evident that students in Class IX possess significantly higher Emotional skills level compared to those in Class – X.

4.7.2. Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Board (CBSE&MBSE)

Hypothesis 5 states that there is no significant difference in the Life Skills Awareness level of secondary students with regards to Board i.e., CBSE and MBSE.

Table 4.74 illustrates the differences in Life Skills awareness level between CBSE and MBSE of secondary school students in Mizoram.

Table 4.74. Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
MBSE	739	136.94	14.202	6.034	5.851	0.01*
CBSE	274	142.97	15.555			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.74 clearly indicates that the calculated ‘t’ value of 5.851 demonstrates a statistically significant difference in Life Skills Awareness level between the two board (CBSE&MBSE). Since the obtained ‘t’ value exceeds the critical value at the 0.01 significance level, it can be concluded that there is a notable difference in the Life Skills Awareness level of secondary students based on the educational board. Consequently, the null hypothesis which states that there is no significant difference in Life Skills Awareness level among secondary school students with respect to board is rejected. This confirms that the two groups differ significantly. Furthermore, the mean difference suggests that students from the CBSE board exhibit significantly higher awareness level of Life Skills compared to those from the MBSE board.

A. Difference in the Thinking Skills of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)

Hypothesis 6 states that there is no significant difference in the Thinking Skills level of secondary students with regards to Board i.e.,CBSE and MBSE.

Table 4.75 illustrates the differences in Thinking skills level between CBSE and MBSE of secondary school students in Mizoram.

Table 4.75. Difference in the Thinking Skills Level of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
MBSE	739	68.34	9.126	0.646	1.029	NS
CBSE	274	68.99	8.139			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.75 shows that the calculated ‘t’ value of 1.029 does not reflect a significant difference in Thinking skills level between the two board. Since this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Thinking skills level of secondary students based on their educational board. Therefore, the null hypothesis which states that there is no significant difference in Thinking skills level among secondary school students with respect to board is accepted. This finding confirms that the two groups do not differ significantly at either level of confidence. Consequently, the results indicate that students from both CBSE and MBSE exhibit comparable levels of Thinking skills.

B. Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Board (MBSE&CBSE)

Hypothesis 7 states that there is no significant difference in the Social Skills of secondary students with regards to Board i.e., CBSE and MBSE

Table 4.76 illustrates the differences in Social skills level between CBSE and MBSE of secondary school students in Mizoram.

Table 4.76. Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
MBSE	739	24.99	3.887	0.385	1.323	NS
CBSE	274	24.61	4.666			

The following analysis is obtained from the comparative statistic above.

The data analysis in Table 4.64 indicates that the computed ‘t’ value of 1.323 does not show a significant difference in Social skills level between the two boards. As this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Social skills level of secondary students based on their educational board. Accordingly, the null hypothesis which states that there is no significant difference in Social skills among secondary school students with respect to board is accepted. This outcome confirms that the two groups do not differ significantly at either level of confidence. Therefore, the findings suggest that students from both CBSE and MBSE possess similar levels of social skills.

C. Difference in the Emotional Skills Level of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)

Hypothesis 8 states that there is no significant difference in the Emotional Skills level of secondary students with regards to Board i.e., CBSE and MBSE

Table 4.77 illustrates the differences in Social skills level between CBSE and MBSE of secondary school students in Mizoram.

Table 4.77. Difference in the Emotional Skills of Secondary School student of Mizoram with reference to Board (CBSE&MBSE)

Groups	N	Mean	SD	MD	t-value	Sig.level
MBSE	739	41.21	4.739	4.417	12.075	0.01*
CBSE	274	45.63	6.190			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.77 clearly indicates that the calculated ‘t’ value of 12.075 demonstrates a statistically significant difference in Emotional skills level between the two board. Since the obtained ‘t’ value exceeds the critical value at the 0.01 significance level, it can be concluded that there is a notable difference in the Emotional skills of secondary students based on the education board. Consequently, the null hypothesis which states that there is no significant difference in Life Skills among secondary school students with respect to board is rejected. This confirms that the two groups differ significantly. Furthermore, the mean difference suggests that students from the CBSE board exhibit significantly higher Emotional skills level compared to those from the MBSE board.

The statistical findings clearly indicate that, overall CBSE students show better performance than MBSE students in terms of awareness level of Life Skills among secondary school learners as reflected in the mean scores. Moreover, the dimension-wise results presented in tables 4.75, 4.76, and 4.77 reveal that CBSE students particularly excel

in the levels of Thinking skills and Emotional skills, demonstrating stronger capabilities in these areas compared to their MBSE counterparts. This means CBSE students show stronger problem-solving, reasoning and emotional understanding than MBSE students, giving them a clear edge in overall Life Skills awareness level, adaptability and personal growth.

4.7.3. Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Family

Hypothesis 9 states that there is no significant difference in the Life Skills Awareness level of secondary students with regards to Family

Table 4.78 illustrates the differences in Life skills Awareness level between Nuclear and Joint family of secondary school students in Mizoram.

Table 4.78. Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Family

Groups	N	Mean	SD	MD	t-value	Sig.level
Nuclear	666	137.51	14.403	3.158	3.324	0.01*
Joint	348	140.67	15.420			

The following analysis is obtained from the comparative statistic above.

The analysis of data in Table 4.78 clearly indicates that the calculated ‘t’ value of 3.324 demonstrates a statistically significant difference in Life Skills Awareness level between the two family structure. Since the obtained ‘t’ value exceeds the critical value at the 0.01 significance level, it can be concluded that there is a notable difference in the Life Skills awareness level of secondary students based on the structure of the family. Consequently, the null hypothesis which states that there is no significant difference in Life Skills awareness level among secondary school students with respect to family is rejected. This confirms that the two groups differ significantly. Furthermore, the mean

difference suggests that students from the joint family exhibit significantly higher Life Skills awareness level compared to those from the nuclear family.

A. Difference in the Thinking Skills Level of Secondary School student of Mizoram with reference to Family

Hypothesis 10 states that there is no significant difference in the Thinking Skills level of secondary students with regards to Family

Table 4.79 illustrates the differences in Thinking skills level between Nuclear and Joint family of secondary school students in Mizoram.

Table 4.79. Difference in the Thinking Skills Level of Secondary School student of Mizoram with reference to Family

Groups	N	Mean	SD	MD	t-value	Sig.level
Nuclear	666	68.25	9.089	0.811	1.383	NS
Joint	348	69.06	8.427			

The following analysis is obtained from the comparative statistic above.

The data analysis in Table 4.79 indicates that the computed ‘t’ value of 1.383 does not show a significant difference in Thinking skills level between the two family. As this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Thinking skills level of secondary students based on their family structure. Accordingly, the null hypothesis which states that there is no significant difference in Thinking skills among secondary school students with respect to family is accepted. This outcome confirms that the two groups do not differ significantly at either level of confidence. Therefore, the findings suggest that students from both nuclear and joint family possess similar levels of Thinking skills.

B. Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Family

Hypothesis 11 states that there is no significant difference in the Social Skills level of secondary students with regards to Family.

Table 4.80 illustrates the differences in Social skills level between Nuclear and Joint family of secondary school students in Mizoram.

Table 4.80. Difference in the Social Skills Level of Secondary School student of Mizoram with reference to Family

Groups	N	Mean	SD	MD	t-value	Sig.level
Nuclear	666	24.91	3.832	0.075	0.276	NS
Joint	348	24.83	4.609			

The following analysis is obtained from the comparative statistic above.

The data analysis in Table 4.80 indicates that the computed ‘t’ value of 0.276 does not show a significant difference in Social skills level between the two family. As this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Social skills level of secondary students based on their family structure. Accordingly, the null hypothesis which states that there is no significant difference in Social skills among secondary school students with respect to family is accepted. This outcome confirms that the two groups do not differ significantly at either level of confidence. Therefore, the findings suggest that students from both nuclear and joint family possess similar levels of Social skills.

C. Difference in the Emotional Skills Level of Secondary School student of Mizoram with reference to Family

Hypothesis 12 states that there is no significant difference in the Emotional Skills level of secondary students with regards to Family.

Table 4.81 illustrates the differences in Emotional skills level between Nuclear and Joint family of secondary school students in Mizoram.

Table 4.81. Difference in the Emotional Skills Level of Secondary School student of Mizoram with reference to Family

Groups	N	Mean	SD	MD	t-value	Sig.level
Nuclear	666	42.31	5.339	0.273	0.746	NS
Joint	348	42.58	5.877			

The following analysis is obtained from the comparative statistic above.

The data analysis in Table 4.81 indicates that the computed ‘t’ value of 0.746 does not show a significant difference in Emotional skills level between the two family. As this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Emotional skills level of secondary students based on their family structure. Accordingly, the null hypothesis which states that there is no significant difference in Emotional skills among secondary school students with respect to family is accepted. This outcome confirms that the two groups do not differ significantly at either level of confidence. Therefore, the findings suggest that students from both nuclear and joint family possess similar levels of Emotional skills.

The statistical findings present a clear indication that students belonging to joint families tend to demonstrate better awareness level of Life Skills education compared to those from nuclear families. Dimension-wise analysis further highlights that joint family students perform relatively better in Thinking skills and Emotional skills, suggesting

stronger cognitive and emotional development. However, the overall mean scores reveal only a slight advantage over nuclear family students rather than a significant difference. This implies that while the joint family environment may contribute positive level to Life Skills awareness, the margin of improvement remains modest rather than substantially high.

4.7.4. Difference in the Life Skills Awareness Level of Secondary School Students of Mizoram with Reference to Gender

Hypothesis 13 states that there is no significant difference in the Life Skills Awareness level of secondary students with regards to Gender.

Table 4.82 illustrates the differences in Life skills awareness level between Male and Female of secondary school students in Mizoram.

Table 4.82. Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Gender

Groups	N	Mean	SD	MD	t-value	Sig.level
Male	488	139.07	14.400	0.906	0.971	NS
Female	525	138.17	15.228			

The following analysis is obtained from the comparative statistic above.

The data analysis in Table 4.82 indicates that the computed ‘t’ value of 0.971 does not show a significant difference in life skills between the two gender. As this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Life Skills awareness level of secondary students based on their gender. Accordingly, the null hypothesis which states that there is no significant difference in Life Skills among secondary school students with respect to gender is accepted. This outcome confirms that the two groups do not differ significantly at either level of confidence. Therefore, the findings suggest that male and female students possess similar levels towards Life Skills.

4.7.5. Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Locality

Hypothesis 14 states that there is no significant difference in the Life Skills Awareness level of secondary students with regards to Locality.

Table 4.83 illustrates the differences in Life skills awareness level between Urban and Rural of secondary school students in Mizoram.

Table 4.83. Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Locality

Groups	N	Mean	SD	MD	t-value	Sig.level
Urban	523	139.10	13.672	1.036	1.111	NS
Rural	490	138.07	15.979			

The following analysis is obtained from the comparative statistic above.

The data analysis in Table 4.83 indicates that the computed ‘t’ value of 1.111 does not show a significant difference in Life Skills awareness level between the two locality. As this value is lower than the critical ‘t’ values at both the 0.01 and 0.05 significance levels, it can be concluded that there is no statistically significant difference in the Life Skills awareness level of secondary students based on their locality. Accordingly, the null hypothesis which states that there is no significant difference in Life Skills awareness among secondary school students with respect to locality is accepted. This outcome confirms that the two groups do not differ significantly at either level of confidence. Therefore, the findings suggest that urban and rural students possess similar levels of Life Skills.

4.7.6. Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Economical Status of Family

Hypothesis 15 states that there is no significant difference in the Life Skills awareness level of secondary students with regards to economical status of family.

Table 4.84 illustrates the differences in Life Skills awareness level between high income, middle income and low income of secondary school students in Mizoram.

Table 4.84. Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Economical Status of Family

Groups	Sum of Squares	df	Mean Squares	F-value	P-value
Between groups	624.077	2	312.039	1.420	0.242
Within groups	222118.221	1011	219.701		
Total	222742.221	1013			

The following ANOVA analysis is obtained from the comparative statistic above.

The above table 4.84 reflect that the calculated F – value for the effects of Life Skills awareness level on the economical status of family is 1.420 which is relatively lower than the criterion F – value 2.996 and null hypothesis that there is no significant difference is accepted. Thus, this indicate that there is no significant impact upon awareness level of Life Skills and economical status of the family.

4.7.7. Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to Parental Education

Hypothesis 16 states that there is no significant difference in the Life Skills awareness level of secondary students with regards to parental education.

Table 4.85 illustrates the differences in Life Skills awareness level between parental education of secondary school students in Mizoram.

Table 4.85. Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to Parental Education

Groups	Sum of Squares	df	Mean Squares	F-value	P-value
Between groups	1755.586	4	438.897	2.004	0.092
Within groups	220986.634	1009	219.015		
Total	222742.221	1013			

The following ANOVA analysis is obtained from the comparative statistic above.

The above table 4.85 shows that the calculated F-value for the effect of Life Skills awareness level on the parental education of the children is 2.004, which is lower than the critical F-value of 2.372. Therefore, the null hypothesis stating that there is no significant difference is accepted. This indicates that there is no statistically significant impact of parental education on the students regarding their Life Skills.

4.7.8. Difference in the Life Skills Awareness Level of Secondary School Student of Mizoram with Reference to District – Wise

Hypothesis 17 states that there is no significant difference in the Life Skills awareness level of secondary students with regards to district wise.

Table 4.86 illustrates the differences in Life skills awareness level among district wise of secondary school students in Mizoram.

Table 4.86. Difference in the Life Skills Awareness Level of Secondary School student of Mizoram with reference to District Wise

Groups	Sum of Squares	df	Mean Squares	F-value	P-value
Between groups	40566.582	4	10141.645	56.171	0.001*
Within groups	182175.639	1009	180.551		
Total	222742.221	1013			

The following ANOVA analysis is obtained from the comparative statistic above.

From table 4.86, the critical value of F is 2.37 and F (4,1009) value is 56.171 (p < 0.05), the null hypothesis that there is no significant difference is failed to be accepted at 0.05 level. Thus, it clearly signify that there is significant difference in the Life Skills awareness level of secondary students with regards to district wise.

As significant differences is identified in the district wise levels, to identify more depth about what makes the differences in this case, post hoc test (Games – Howell) was employed out as sample sizes are unequal and variances are unequal. The table given below along with means plot graph on multiple comparison using post hoc test (Games – Howell) shows the differences and comparisons among the five districts on Life Skills awareness among the secondary school students of Mizoram.

Table 4.87. Multiple comparisons using Post Hoc test of Life Skills of Secondary School Students with regards to District – Wise

Dimension	(I)District	(J)District	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Life Skills Awareness Level of Secondary School Student in Mizoram Based on their District – Wise	Aizawl	Lunglei	1.787	1.377	0.693	-2.00	5.58
		Champhai	3.322	1.366	0.112	-0.44	7.09
		Kolasib	3.456	1.494	0.144	-0.65	7.56
		Mamit	19.498*	1.692	<0.001	14.85	24.15
	Lunglei	Aizawl	-1.787	1.377	0.693	-5.58	2.00
		Champhai	1.535	1.067	0.603	-1.39	4.46
		Kolasib	1.669	1.227	0.654	-1.69	5.03
		Mamit	17.711*	1.461	<0.001	13.70	21.72
	Champhai	Aizawl	-3.322	1.366	0.112	-7.09	0.44
		Lunglei	-1.535	1.067	0.603	-4.46	1.39
		Kolasib	0.134	1.215	1.000	-3.19	3.46
		Mamit	16.176*	1.451	<0.001	12.19	20.16
	Kolasib	Aizawl	-3.456	1.494	0.144	-7.56	0.65
		Lunglei	-1.669	1.227	0.654	-5.03	1.69
		Champhai	-0.134	1.215	1.000	-3.46	3.19

		Mamit	16.042*	1.573	<0.00 1	11.73	20.36
	Mamit	Aizawl	-19.498*	1.692	<0.00 1	-24.15	-14.48
		Lunglei	-17.711*	1.461	<0.00 1	-21.72	-13.70
		Champhai	-16.176*	1.451	<0.00 1	-20.16	-12.19
		Kolasib	-16.042*	1.573	<0.00 1	-20.36	-11.73

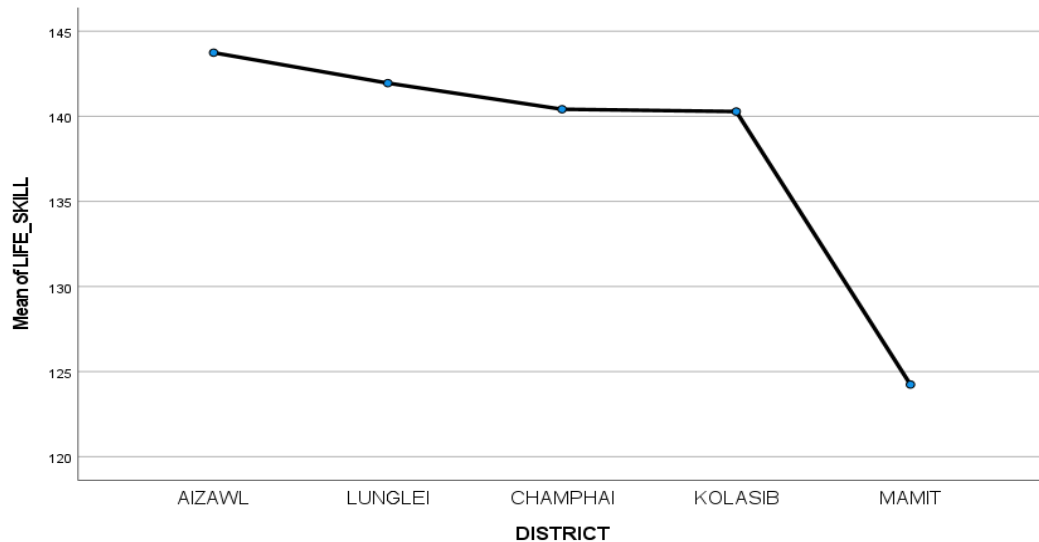


Fig.4.6. Mean Plot of Life Skills Awareness Level and District – Wise Levels

Analysis of data from table 4.87 and figure 4.6 shows that Aizawl district shows a high level of Life Skills knowledge in comparing to the other districts. This was followed by Lunglei, Champhai, Kolasib and Mamit district respectively. This clearly shows that Mamit district have a lower significant awareness level of Life Skills which makes a difference in comparing to the other districts with differences large enough to be both statistically and practically meaningful; while other district have a similar Life Skills level

with no big significant difference respectively. This is also found to be evident from the interview with the head and light discussion with the teacher that different Life Skills components were not widely integrated into classroom teaching because of time limitations. In addition, teachers were compelled to focus heavily on exam-oriented learning and textbook-based instruction, particularly for board classes, as board examination results are the primary measure by which outsiders evaluate the school's performance. The statement was quoted below:

....Classroom a naupang Life Skills develop nan a activity leh interactive session tihpui te pawh kan duh viau thin a, period khat chhung hi a reilo em a hun hi kan nei tamlo ani. Chubakah a tawp ah chuan board result bawh kha an rawn en leh tur anih si avangin textbook chhung leh exam kalphung angin naupangte kan zirtir lo theilo ani.....(We genuinely want to use interactive sessions and activities to help the students develop their life skills in the classroom, but we are limited by the length of the class period. Furthermore, we have little choice but to exclusively rely on textbook-based and exam-oriented instruction because our students' board results are what they will ultimately view).

4.8. Objective no. 7 : To find out the Life Skills activities implemented in the secondary school of Mizoram

In order to find out the activities practice and implemented in the secondary schools of Mizoram, the researcher collected data through a semi-structured interview schedule that was specially designed for headmasters of secondary schools. The schedule contained a mix of close-ended and open-ended questions which allowed the respondents to share both direct answers and more detailed explanations. A total of twelve headmasters from different institutions, including State board school, JNV and KV schools located in both urban and rural areas of Mizoram were approached for the study. Each headmaster was interviewed personally and their responses were recorded systematically under the given set of questions (see Appendix 1 for the set of questions). While some questions required simple confirmation such as whether they were aware of Life Skills education, others invited them to express their views on which skills they considered most important and how these were integrated into classroom teaching and school activities and the interviewer explore the responses in greater depth, use prompts and follow new lines of inquiry as they emerge during the discussion. In many cases, the headmasters' words were documented verbatim, even in Mizo, to capture the authenticity of their perspectives. The collected data therefore combined both quantitative elements such as yes/no answers and qualitative insights, such as reflections on challenges, methods of teaching and examples of extracurricular activities. After gathering all the information, the responses were organized and later synthesized into a consolidated summary that highlighted common themes and differences in perception towards Life Skills education. This approach ensured that the data not only reflected the factual awareness of the headmasters but also revealed their deeper attitudes, practices and challenges regarding the integration of Life Skills into secondary education.

Based on the interview data collected from secondary school headmasters across various schools and districts, their individual responses regarding the different Life Skills

activities implemented in their respective institutions were carefully recorded and presented as follows:

Respondent 1 claimed to be aware of Life Skills education and believed that all Life Skills components are essential for adolescents, as different stages of growing up demand different skills based on their specific needs.

..... “Skills zawng zawng hi a pawimawh vek a, a hun leh a hmun a zir in a pawimawh dan a inang lo...” (All skills are important but their importance could be different according to the time and place).

The respondent further exclaimed that different Life Skills components could not be largely incorporated inside the classroom by different teachers due to time constraints and besides that they had to deeply concentrated on exam oriented learning and textbook based especially for the Board students as board results are the thing that matter most to the people who are going to evaluate from outside.

...Classroom a naupang Life Skills develop nan a activity leh interactive session tihpui te pawh kan duh viau thin na in, period khat chhung hi a reilo em a hun hi kan nei tamlo ani. Chubakah a tawp ah chuan board result bawh kha an rawn en leh tur anih si avangin textbook chhung leh exam kalphung angin naupangte kan zirtir lo theilo ani...(We genuinely want to use interactive sessions and activities to help the students develop their Life Skills in the classroom, but we are limited by the length of the class period. Furthermore, we have little choice but to exclusively rely on textbook-based and exam-oriented instruction because our students' board results are what they will ultimately see).

In addition to classroom instruction, the school organised several extracurricular activities that foster holistic development and enhance Life Skills in multiple ways. The respondents proudly stated that the school had excellent comments regarding the social service work that they organised to teach students how to work together and instill good deeds by cleaning public utility services like restrooms, side drains, railings and sweeping the neighbourhood by bringing the school into line with society. By hosting an annual

sports week, the school provides students with the chance to improve their talents and rejuvenate their minds while also fostering their affinity for sports. In order to stimulate and expand the students' minds, the school frequently arranges field trips and outings for the pupils. To help the students develop their hard and soft talents for the future, the school also offered vocational classes.

The respondent made it apparent that the school used to host an orientation program for students each year with the assistance of Samagrah Shiksha. While it did not specifically refer to this program as Life Skills, it did incorporate Life Skills into some of the sessions.

Respondent 2 declared that he understands the importance of teaching Life Skills and that effective communication skills are a must for students because without two-way communication, education cannot be successful and students cannot comprehend the material they have studied if there is no effective interaction and communication between the teacher and the students.

According to the responder, the teacher used to introduce various Life Skills in the classroom by setting aside time for interactive sessions to allay students' concerns and provide a forum for them to voice their ideas and enquiries. In order to help the pupils develop good deeds and live in harmony with others, the instructor also encourages and motivates them in all aspects of life. To help teachers and students develop their skills outside of the classroom, the school regularly hosts seminars for them.

The school used to plan field trips, visit zoological parks and science centres for sightseeing in order to foster life skills in the students. Information skills and creativity were also developed and students were encouraged to participate in sports, which allowed them to concentrate on their studies while also rejuvenating their minds and developing their skills. In addition, in order to foster positive relationships and collaboration between the school and society, the school used to host Social Service Day, where students volunteered to do everything they could for the community. Students are given a lot of

chances to experience life outside of the classroom, which will help them develop and impart all the skills they need to overcome obstacles in their lives.

Ultimately, the school organised a Life Skills education program specifically for the teachers and children. A specialist from the regional centre was dispatched to inspire, educate, and raise awareness of these critical abilities, which are necessary in the twenty-first century.

Respondent 3 stated to be fully aware of Life Skills education and give favoritism to Self-awareness skills for the growth and development of the students as adolescent stage is a crucial stage where guidance is necessary the most and the students also need to be fully aware of themselves in different aspects of their life.

.... “Engkim ah kaihhruai an ngaih hunlai tak ani a, naupangte hian anmahni an in hriatchian lehzual hi a tul em em ani...” (This is a crucial stage for giving guidance and the students self-awareness of themselves is very important more than anything else)

According to the respondent, the teacher used to set up activity-based learning in the classroom by providing space for direct learning, which would help the students grasp and comprehend. However, due to time constraints, it is occasionally impossible to have enough time to address every student's problem because the class period is insufficient to address every issue. In addition, the teacher typically used a traditional approach and only focused on exam-oriented instruction because the school lacked technological tools like smart boards that could improve instruction and add more significant colour to the classroom. Besides all these, the students used to have Vocational class at school in order to enhance their skills beyond the classroom teaching.

Besides the classroom teaching, the school used to organized Social Work events where the student used to engaged themselves by cleaning the neighborhood and learn to give back all the good deeds to the society. Furthermore, the school used to organized annual sports to refresh the young minds by letting them understand the true spirit of working in a collaborative work with their peers and inculcate good deeds among the

learner. The school also conducted Work Education by cleaning the school campus once a week in order to inculcate among the students the importance of cleanliness.

Eventually, an orientation program used to be held annually at the start of the academic year for students. It wasn't specifically about the Life Skills program, but it did cover some of the fundamental skills in the lecture.

Respondent 4 emphasized being well aware of Life Skills education and highlighted Effective Communication skills as vital for students' overall growth. He stressed that clear and meaningful interaction between students and teachers is essential for effective learning and smooth classroom engagement, playing a key role in the students' academic and personal development.

The respondent mentioned that the teacher integrates various Life Skills components through the use of ICT tools such as pictures, examples, and videos to simplify concepts, inspire students, and enrich the teaching-learning experience. In addition, the teacher conducts quizzes and encourages sharing methods by providing students a platform to express themselves. Competitions are also organized among students to actively foster and strengthen their thinking skills, promoting a more engaging and skill-oriented classroom environment.

Apart from classroom teaching, the school arranged outings to broaden students' perspectives and expose them to new experiences. Gardening activities were introduced to help students build coping skills and connect with nature. Regular assembly presentations provided students with a platform to boost their confidence and prepare them to face future challenges. Additionally, the school observed Social Service Day, during which students participated in cleaning their surroundings. This activity promoted teamwork, a sense of responsibility, and strengthened cooperation among peers. Through these initiatives, students learned the value of working together harmoniously with their friends and contributing positively to the community. These efforts collectively supported

the development of essential Life Skills beyond academic learning, fostering personal growth and social awareness among students.

The respondent stated that a Life Skills awareness programme was specially conducted at the school by the regional centre, with experts being sent to guide and educate both students and teachers. This initiative aimed to enhance their understanding and strengthen their aptitude in Life Skills contributing to personal growth and improved teaching-learning outcomes.

Respondent 5 appears to have a good understanding of Life Skills education and believes that all its components are crucial for students. According to the respondent, every Life Skill is essential for adolescents, as they will encounter various challenges in the future. Life skills, therefore, are vital in helping learners lead a balanced life as it contribute significantly to shaping a strong foundation that supports mental well-being, productivity and responsible social behavior as students grow and engage with the world around them.

The respondents stated that to enhance effective learning and practical knowledge among students, teachers receive training based on the 7 teaching modules. This training is considered vital and is closely aligned with the principles of NEP 2020 and the CBSE Life Skills framework. These modules aim to promote holistic and meaningful learning experiences, ensuring that students not only gain academic knowledge but also develop essential life skills that prepare them for real-life challenges and support their overall personal and social development.

Besides teaching inside the classroom, further activities are not incorporated among the learners outside the school campus.

The respondent mentioned that a Life Skills awareness programme had been conducted once at the school, organized by the regional centre. As part of the initiative, an expert was sent to the school to raise awareness and educate both students and teachers about the importance of life skills.

Respondent 6 seems to be aware of Life Skills education but not so familiar. Besides, the respondent believe that Creative thinking skill is one of the important skills for strengthening and developing the students overall holistic development.

....Skills zawng zawng hi a pawimawh lutuk a mahse han thlan dawn chuan Creative thinking skills hi tuna kan naupangte tan hian a pawimawh ber in ka hria... (I believe that all skills hold importance, but when it comes to selecting the most suitable one for our students, I would prioritize Creative thinking skill).

The respondent noted that teachers do not incorporate many activities related to various life skills during classroom lectures, mainly due to time limitations, as completing the syllabus remains a priority. Additionally, they are left with little choice but to focus on exam-oriented and textbook-based teaching methods, given that board exam results are ultimately considered the most important outcome.

“Classroom chhung ah naupangte nen a activities tih ho kan nei vak lo” (We do not inculcate much activities inside the classroom with the student)

In addition to classroom teaching, the school organizes an annual sports function to uplift students' spirits. A first-aid awareness programme is also conducted on campus, including demonstrations to prepare students for emergency situations. The school places importance on Social Work Service Day, during which students clean the school and surrounding community. Furthermore, initiatives like the ECO Club and NCC are actively run to support students' development not just academically, but also to promote physical fitness, health, and mental strength.

The respondent clearly mentioned that the school does not conduct any Life Skills programmes for either students or teachers, nor has any such initiative been organized by the directorate. The only programme held so far is the orientation programme, which is typically conducted at the start of the academic session.

Respondent 7 demonstrates a clear understanding of Life Skills education and places greater emphasis on Creative Thinking skills, believing that this particular skill enables students to apply their imagination and knowledge to handle challenging situations. Additionally, it plays a vital role in promoting the holistic development of learners.

The respondent mentioned that teachers incorporate various Life Skills components during classroom lectures by conducting brainstorming sessions, interactive lessons and quizzes to strengthen students' thinking abilities. These classroom activities are actively implemented to promote deep learning and build confidence among the learners.

....“Zirtirtute hian classroom chhungah naupangte activities kan tihpui thin”...(The teacher used to apply activity-based learning inside the classroom)

The school also conducts various programmes to broaden students' learning beyond the classroom. It actively runs an ECO Club and observes Social Work Service Day, offering students opportunities for hands-on learning beyond textbooks. These initiatives help foster values like teamwork, leadership, and civic responsibility by engaging students in collaborative projects and community activities. Additionally, students are taken on excursions to enhance their spatial awareness, and an annual sports function is held each year to help them unwind and rejuvenate from their academic routine.

.... “ Kan naupangte hi lehkhah zir mai bakah hnathawh thleng hian kan thiam tir ”... (We guide our students to develop the ability to learn and work beyond the confines of their textbooks).

Thus, while the school conducts an orientation programme for students each year, no specific programme focused exclusively on Life Skills has been organized so far.

Respondent 8 is familiar with Life Skills education and places emphasis on Critical Thinking skills, believing that when students learn and approach topics from a general to a specific perspective, it helps them develop stronger critical thinking abilities and maintain better focus on their studies.

The respondent stated that while teachers do include some Life Skills in their teaching methods, they are unable to actively integrate them into students' learning due to time constraints. Ultimately, they have to depend primarily on textbook-based and exam-oriented teaching, as board exam results are considered the most important outcome.

.... “ Board exam result hi tehna hmasa ber anih avangin textbook based leh exam behchhan in kan zirtir lo theilo”....(Since board exam results are given the highest importance, we are unable to teach beyond textbook-based and exam-oriented methods).

Alongside regular classroom instruction, the school organizes various extracurricular activities aimed at promoting holistic development and enhancing Life Skills in diverse ways. The respondents proudly shared that the school received positive feedback for its social service initiatives, which are designed to teach students teamwork and instill a sense of responsibility. These activities include cleaning public utilities such as restrooms, side drains, railings and sweeping nearby areas, helping to connect the school with the broader community. Additionally, the annual sports week offers students an opportunity to showcase their talents, refresh their minds, and nurture a love for sports. To further stimulate and broaden students' perspectives, the school also regularly arranges educational field trips and excursions.

The respondent mentioned that although the school holds an orientation programme for students at the start of each academic session, it does not explicitly focus on Life Skills. However, certain life skills are indirectly incorporated during the session.

..... “ Awareness programme hi chu kan hman thin a mahse a hming hmer a Life Skills programme ang zawng tak chuan programme siam ala nilo”...(We often conduct

awareness programmes, but a programme specifically named or focused as a Life Skills programme has not been organized yet).

Respondent 9 seems to be quite aware of Life Skills education and consider Problem solving skills and Coping with Stress management be essential and helpful for holistic development of the learner.

The respondent mentioned that to integrate various Life Skills activities within the classroom, the teacher primarily used role-playing techniques. Additionally, activities such as quizzes and competitions were incorporated to make learning engaging. The smartboard was also effectively utilized to enhance students' conceptual understanding. Moreover, storytelling was adopted as a method to spark enthusiasm and sustain students' interest during lessons.

In addition to classroom teaching, the respondent shared that the school conducted various activities to enhance students' skills and overall development. These included organizing a Sports Week and even hiring professional coaches for talented students in football and boxing, aiming to strengthen, motivate and rejuvenate their minds beyond academics. Vocational training such as gardening, knitting etc important for students' personal growth was also incorporated. Furthermore, the school regularly observed Social Work Service Day during which students cleaned public utilities and supported the community. Yoga sessions were also held during morning assemblies to provide a refreshing start to the day.

The respondent stated that the school had conducted a Life Skills awareness training programme in collaboration with the regional centre, which provided a resource person to guide and enhance the life skills of both students and teachers. Additionally, students studied the Physical Activity Trainer textbook alongside traditional subjects, reflecting the school's recognition of the importance of Life Skills education and its commitment to incorporating it into classroom learning through both theoretical and practical approaches.

Respondent 10 expressed full awareness of Life Skills education and emphasized that all skills are essential for the holistic development of learners. They noted that the relevance and necessity of each skill vary depending on the individual needs and circumstances of the students.

The respondent mentioned that to foster Life Skills among students, teachers primarily used the smartboard to enhance subject clarity through visual learning. Various activities were also conducted in the classroom to reinforce students' understanding, with a strong emphasis placed on textbook-based teaching and learning.

Thus, the respondent clearly stated that there is no further activities beyond the classroom teaching due to time constraints.

The respondent claimed that Life Skills awareness programme was conducted in their school which was organized from the regional centre.

Respondent 11 seemed to have a good understanding of Life Skills education and stressed that Problem Solving skills are vital and essential for the holistic development of learners, underlining their role in nurturing well-rounded individuals.

The respondent indicated that limited classroom time restricts the implementation of various activities aimed at fostering Life Skills. Furthermore, the school predominantly depends on examination-oriented instruction and textbook-based learning as students' Board examination outcomes are of primary importance.

.....Activities han tihpui nasat te pawh kan chak a mahse Board result hi a pawimawh thin em avangin textbook chhung zir ngawr ngawr lo chu kan ti hman meuhlo... (Although we are capable of effectively implementing various activities, the consistent emphasis on Board examination results necessitates a continued reliance on textbook-centered and exam-focused learning approaches).

The respondent highlighted that, in addition to regular classroom instruction, the school organized various co-curricular activities such as sports events to motivate students

and observed Social Service Day through community cleaning initiatives. Furthermore, the school operated an ECO Club to foster practical skills beyond academic learning. Annual outings and excursions were also conducted to inspire students and enhance their social and cognitive skills.

.... “Life Skills tih a hming hmer a sawi theih siloh in thil tamtak naupangte skills develop na atan hian kan ti nasa ani...” (Even though it is not explicitly called Life Skills, we are doing a lot of things to help children develop their skills effectively).

Accordingly, the school had previously conducted a Life Skills awareness session, during which a teacher from within the institution voluntarily delivered a lecture on the topic out of personal initiative. However, since then, no subsequent programmes related to Life Skills education have been initiated or organized from the directorate.

Respondent 12 is aware of Life Skills education and claimed that all Thinking skills is necessary and important for the overall development of the learner.

The respondent mentioned that teachers promote punctuality by modeling it through their own behavior, while also teaching students effective time management to maximize productivity. Additionally, emphasis is placed on guiding students to show respect toward others, whether peers or elders, thereby instilling positive values. Group work and interactive activities are also prioritized to foster the development of students' thinking and social skills, which are essential for youth development.

In addition to classroom instruction, the respondent stated that the school organizes activities such as sports events, carnivals, and talent competitions to enhance students' personality and confidence. Furthermore, initiatives like public speaking platforms, art and craft sessions, as well as picnics and outings are conducted to provide students with opportunities for self-exploration and personal growth.

The respondent noted that while certain awareness programmes have been conducted, they have not been explicitly identified or labeled under the term ‘Life Skills’ to date.

4.8.1. Summarization of the Interview Data

The interview responses collected from 12 headmasters of secondary schools both from CBSE and MBSE reveal that all of them are aware of Life Skills education and recognize its importance for students’ holistic development. Although the majority acknowledge that all components of Life Skills are essential, a few headmasters give prominence to specific skills such as communication, self-awareness, critical and creative thinking as well as problem-solving and stress management. These differences in emphasis reflect their understanding of what students need most during adolescence.

Despite this awareness, the actual integration of Life Skills into the classroom is often limited. A recurring concern among the respondents is the lack of time and the pressure of completing the syllabus, especially for students preparing for board examinations. As a result, teaching often remains textbook-based and exam-oriented, leaving little room for interactive or skill-based learning. Some respondent pointed out that while teachers do attempt to incorporate Life Skills through storytelling, role-play, group work and ICT tools like smartboards and videos, these efforts are not consistent due to institutional constraints and resource limitations.

Most schools, however, make up for this limitation by conducting a range of extracurricular and co-curricular activities that indirectly nurture Life Skills. Common activities include social service initiatives like cleaning campaigns, which aim to build responsibility and teamwork; annual sports events to promote discipline, physical health and sportsmanship; and field trips or excursions to encourage exploration and observational learning. Additionally, clubs such as ECO clubs and NCC units are active in some schools, providing students with platforms to develop leadership, collaboration and practical problem-solving abilities. In some cases, schools also offer vocational

training and host talent competitions, gardening sessions, yoga and public speaking forums, all of which contribute to skill-building beyond academic content.

On the matter of formal Life Skills programmes, responses varied. While some schools have conducted Life Skills awareness programmes in collaboration with regional centres which often bringing in external resource persons, others have relied on internal initiatives led by motivated teachers. However, many respondents noted that these programmes were not always labeled explicitly as “Life Skills” education, though they addressed similar themes. A few schools admitted to not having conducted any such programme at all.

In conclusion, while there is clear recognition among headmasters of the value of Life Skills education, its systematic and structured implementation within classrooms remains a challenge. The focus on academic achievement, coupled with limited time and infrastructural constraints, restricts its integration into daily teaching practices. Nevertheless, the efforts made through extracurricular activities and occasional awareness initiatives reflect a growing intent to prepare students with the competencies needed to navigate life successfully beyond school.

4.8.2 Comparison of Interview Schedule of Headmasters’ on Life Skills from both Board (CBSE & MBSE)

The researcher conducted semi-structured interviews with the Headmasters from both CBSE and MBSE of the schools visited to obtain deeper insights and understanding regarding life skills education. The data gathered provided authentic perspectives from each respondent, reflecting their views, experiences, and opinions on the importance and implementation of life skills education. These insights also offered valuable directions for the way forward, highlighting the significance of strengthening life skills integration in schools and the potential strategies that could enhance students’ holistic development in the future.

Table 4.88. Comparison Table of Interview of Headmasters’ on Life Skills from both CBSE & MBSE School

Aspects	State Govt. Board	Central Board
Awareness on Life Skills	All headmasters are aware of Life Skills but often view them as secondary to board exam performance.	High awareness, with structured training and recognition that Life Skills are integral to holistic education.
Teaching Approach in Classroom	Mostly textbook-based and exam-oriented due to time pressure. Limited use of ICT or activity-based methods.	Teachers use ICT tools, role-play, seminars, storytelling, and interactive methods to integrate Life Skills into learning.
Extracurricular and Co-curricular activities	Social service, cleaning drives, annual sports, ECO clubs, NCC, and occasional outings. Often conducted with limited resources.	Broader range of activities including sports with professional coaching, gardening, yoga, excursions, vocational training, social service days and ICT-enabled learning.
Formal Life Skills Programme	Rarely conducted; sometimes orientation programmes include indirect Life Skills elements. Not explicitly labeled as Life Skills programmes.	Conducted more systematically with regional centre support, external experts, and teacher training modules aligned with NEP 2020 and CBSE framework.

Skills Stressed	Greater stress on self-awareness, critical thinking, and creative thinking, along with social service values.	Stress on communication, problem-solving, stress management, and all skills as equally important depending on student needs.
Constraints	Severe time constraints, pressure of syllabus completion, lack of ICT and training.	Less constrained by syllabus pressure, better infrastructure, teacher training, and structured modules to integrate skills.

From Table 4.88, the responses of each Headmaster are clearly presented, allowing for a comparative analysis based on the information gathered. In the case of State board schools, although all Headmasters demonstrated a general awareness of Life Skills education, their responses revealed certain limitations. When asked to explain specific skills in detail, only a few respondents could provide accurate answers independently, while others required hints or prompts to identify the types of skills involved. Moreover, many of them considered Life Skills education to be of secondary importance when compared to board examination performance, thereby reflecting a limited prioritization of this area.

In contrast, Headmasters from Central board schools displayed a much higher level of awareness and understanding of Life Skills education. Their familiarity stems largely from the structured training they receive from regional centres, equipping them with clear knowledge and confidence in the subject. Unlike the State board counterparts, they showed certainty regarding the meaning and scope of Life Skills education. Furthermore, most Central board schools allocate dedicated periods for Life Skills classes, making use of a specialized textbook, ‘A Textbook of Physical Activity Trainer, Skill Education’ authored by Dr. D.S. Yadav.

From Table 4.88, it is evident that in Mizoram State board schools, classroom teaching is largely textbook-based and exam-oriented, mainly due to limited time available within a period. Additionally, the lack of ICT resources such as smartboards and internet connectivity restricts opportunities for innovative and engaging teaching practices. Consequently, activity-based learning is limited; however, rapport between

teachers and students is not an issue, as a positive and supportive relationship is generally maintained in the classroom. In contrast, Central board schools are better supported with infrastructural facilities, including ICT tools that enhance teaching and learning experiences. Teachers in these schools frequently incorporate methods such as role-playing, storytelling, and interactive activities, which not only enrich classroom teaching but also help in building stronger rapport between students and teachers, thereby fostering a more dynamic and engaging learning environment.

Table 4.88 indicates that state board schools often emphasize co-curricular activities alongside classroom teaching by conducting events such as sports week, cleanliness drives, social service week, as well as organizing ECO clubs and NCC. These initiatives are aimed at developing learners holistically – academically, physically, mentally and emotionally to prepare them for real-life challenges. Some schools also arrange occasional outings to special places, which broaden students’ perspectives and support their learning. However, despite the willingness to implement more enriching activities, many schools face constraints due to limited resources and funds, which hinder further progress. In contrast, central board schools also engage in a variety of activities similar to the state board, including social service weeks, sports events, and excursions. What distinguishes them, however, is that some schools employ professional trainers in sports to nurture talented students and enhance physical fitness. Additionally, they provide vocational opportunities such as gardening, ICT training, and yoga to further students’ personal and skill development.

In State board schools, formal Life Skills training or programmes were generally rare, particularly at the secondary level for both students and teachers. While some schools did organize orientation programmes that indirectly incorporated elements of Life Skills, these were not explicitly recognized or labeled as structured Life Skills programmes. In contrast, Central board schools adopted a more systematic approach. With the support of regional centres, they implemented dedicated Life Skills-based programmes where external experts were invited to provide training sessions for both students and teachers.

These programmes not only created awareness about the importance of Life Skills but also delivered practical training through well-designed modules. Importantly, the modules were aligned with the guidelines of the National Education Policy (NEP) 2020 and the CBSE framework, ensuring consistency and relevance.

According to Table 4.88, State board schools place greater emphasis on self-awareness, critical thinking and creative thinking skills considering them most beneficial and appropriate for students, while also fostering values of social service. In contrast, Central board schools focus more on effective communication, problem-solving, and stress management, treating these, along with other Life Skills as equally significant. Their approach highlights flexibility by addressing a broader range of skills based on the specific needs and development requirements of the students.

State board schools face significant challenges such as limited classroom time, heavy pressure to complete the syllabus, inadequate ICT facilities and insufficient teacher training. These constraints restrict the integration of innovative approaches and Life Skills education. In contrast, Central board schools are comparatively less burdened by syllabus demands, supported by stronger infrastructure and systematic teacher training programmes. They also employ structured modules that facilitate the incorporation of life skills into teaching and learning, ensuring a more balanced and effective educational environment.

4.9. Overall Conclusion

Based on the information gathered from textbook analysis, interviews with headmasters, and surveys with students and teachers a clear and worrying picture appears about Life Skills education in Mizoram's secondary schools. The results from these different sources all point to the same issue, there is a big gap between what the National Education Policy (NEP) 2020 aims to achieve and what is actually happening in classrooms. This shows that there are deep-rooted challenges in the education system that are stopping students from developing in a well-rounded, holistic way.

The textbook analysis from both the Mizoram Board of School Education (MBSE) and the Central Board of Secondary Education (CBSE) provides the foundational evidence of this gap. It uncovers a profound and consistent imbalance in the integration of the World Health Organization's ten core Life Skills. There is an overwhelming emphasis on cognitive or thinking skills, particularly critical thinking and problem-solving, especially in Mathematics and Science textbooks. In stark contrast, social skills (like effective communication and interpersonal relationships) and emotional skills (such as coping with stress, empathy, and self-awareness) are severely underrepresented or in many cases, entirely absent. This skewed pedagogical approach, heavily reliant on theoretical content and end-of-chapter questions, creates a curriculum strong in academic rigor but weak in fostering the socio-emotional competencies essential for navigating life's challenges.

This theoretical neglect within the curriculum is directly reflected in the quantitative data collected from students. The awareness level assessment shows that the vast majority (79.29%) of secondary school students in Mizoram possess only a moderate level of Life Skills with a concerning 11.14% falling into the low category. The dimension-wise analysis further corroborates the textbook findings, showing that students' strengths predominantly lie in the cognitive domain, while their social and emotional skills are less developed. This correlation suggests that the imbalanced curriculum is failing to equip students with a balanced skill set. The significant difference in Life Skills

awareness, particularly in emotional skills favouring CBSE students over their MBSE counterparts, further underscores the impact of curricular design and resource allocation, as CBSE textbooks and frameworks show a marginally better, though still insufficient, attempt at holistic integration.

The perspectives of headmasters, gathered through interviews, provide the crucial link that explains why this gap between the printed curriculum and student outcomes persists. Their responses reveal a system caught in a conflict between aspirational goals and practical constraints. While headmasters from both boards demonstrate awareness of the importance of Life Skills education, they operate under immense pressure to prioritize academic performance and board examination results. This "exam-oriented" focus, repeatedly cited in the interviews, forces teachers to resort to textbook-centric, rote-learning methods, leaving little room for the interactive, activity-based pedagogy required for Life Skills development. The headmasters explicitly cite severe time constraints within the classroom period and a packed syllabus as the primary barriers, confirming that the potential for experiential learning, even if minimally present in the textbooks' activity sections is largely unrealized.

Furthermore, the interview data highlights a resource and training divide that exacerbates the problem. State board (MBSE) schools often lack the infrastructural support such as ICT tools and the structured teacher training programmes that their CBSE counterparts may access. This results in an even wider implementation gap for MBSE schools. The extracurricular activities reported by headmasters such as social service, sports, and clubs while valuable are revealed as a compensatory mechanism for the lack of systematic integration within the core instructional time. They are often sporadic, under-resourced and not explicitly connected to a structured Life Skills framework.

In conclusion, the Life Skills education ecosystem in Mizoram is fragmented and struggling to align with the holistic vision of NEP 2020. The curriculum (textbooks) provides a skewed blueprint, overemphasizing cognitive skills. The institutional leadership (headmasters) acknowledges the importance of Life Skills but is constrained

by systemic pressures that prioritize academic metrics. Consequently, the primary beneficiaries (students) emerge with an underdeveloped awareness of the social and emotional competencies crucial for their overall well-being and future success. This interconnected cycle underscores the urgent need for a systematic reform that includes curriculum rebalancing, teacher professional development and a shift in educational priorities to seamlessly weave Life Skills into the very fabric of everyday teaching and learning.

CHAPTER – V

MAJOR FINDINGS, SUMMARIZATION, DISCUSSION AND RECOMMENDATIONS

The present chapter focuses on the major findings from objective 1,2,3,4,5,6 and 7 of the present study. In this chapter, the present chapter focuses on the major findings, discussions, summarization, recommendations and suggestions for future investigation.

5.1. Major Findings of the Study

The major findings of the present study is given below according to the objective wise :

5.1.1. Findings of Objective 1

Objective 1 : To explore the Life Skills components in the secondary school education syllabus.

To examine the various life skill components in secondary school syllabus, WHO ten core Life Skills components viz., Critical thinking skills, Creative thinking skills, Problem solving skills, Self – awareness skills, Decision making skills, Interpersonal relationship skills, Effective communication skills, Coping with stress, Coping with emotions and Empathy are employed for analyzing the textbook

For the Qualitative analysis, textbooks from both the Central Board of School Education (CBSE) and the Mizoram Board of School Education (MBSE) have been selected. These include Class IX and Class X textbooks in Social Science, Science and Mathematics. The focus is on identifying the WHO's ten core Life Skills within each of these textbooks as outlined below:

- i. **Class – IX Social Science Textbook :** Under CBSE and MBSE Social Science textbook, Critical thinking skills is majority in number from both board with a percentage of 49.77 percentage and 41.66 percent. But under CBSE textbook, the skills is followed by Creative thinking skills (11.33 percent), Problem solving skills

(8.49 percent), Coping with stress (8.34 percent), Empathy (7.15 percent), Coping with emotions (5.06 percent), Decision making skills (2.98 percent), Inter personal relationship skills (2.68 percent), Effective communication skills (2.23 percent) and Self awareness skills (1.94 percent).

Under MBSE textbook, Critical thinking skills is followed by Empathy (14.01 percent), Problem solving skills (13.44 percent), Coping with stress (12.12 percent), Creative thinking skills (9.65 percent), Inter personal relationship skills (2.84 percent), Decision making skills (2.46 percent), Coping with emotions (2.27 percent), Effective communication skills (1.13 percent) and Self awareness skills (0.37 percent).

- ii. **Class – IX Maths Textbook :** Under CBSE and MBSE Maths textbook, Problem Solving skills is majority in both board with 67.15 percent and 83.88 percent approx. Therefore, under CBSE textbook, this skills is followed by Critical thinking skills (20.71 percent), Creative thinking skills (10.35 percent), Self awareness skills (1.18 percent), Effective communication skills and Empathy (0.29 percent). Unfortunately, the textbook does not cover all ten core Life Skills as two or three skills are missing. However, in the MBSE textbook a similar trend is observed where only Critical thinking skills (12.55%) and Creative thinking skills (3.55%) are present while the rest of the Life Skills components are entirely absent in the textbook.

- iii. **Class – IX Science Textbook :** Under CBSE and MBSE Science textbook, Critical thinking skills rank the highest in both the textbook with 46.96 percent and 56.95 percent. Therefore, under CBSE textbook, the skills are followed by Problem solving skills (34.84 percent), Creative thinking skills (10.23 percent), Effective communication skills (2.65 percent), Self awareness skills (1.89 percent), Inter personal relationship skills (1.51 percent), Decision making skills (0.94 percent), Coping with emotions and Empathy (0.37 percent), and Coping with stress (0.18 percent).

In the MBSE textbook, Problem-solving skills rank the highest at 36.25 percent, followed by Creative thinking skills (4.96 percent), Coping with stress (1.15 percent),

Empathy (0.49 percent), and Decision-making skills (0.16 percent). However, the other Life Skills components are missing from the textbook.

- iv. **Class – X Social Science Textbook :** Under CBSE and MBSE Social Science textbook, Critical thinking skills stand out as a majority from both textbook with 49.17 percent and 45.22 percent respectively. But under CBSE textbook this skill is followed by Creative thinking skills (13.67 percent), Empathy (6.22 percent), Problem solving skills (6.07 percent), Inter personal relationship skills (4.69 percent), Coping with emotions (4.42 percent), Self awareness skills, Effective communication skills and Coping with stress (4.28 percent) and Decision making skills (2.9 percent). Under MBSE textbook, Critical thinking skills is followed by Problem solving skills (18.79 percent), Coping with stress (10.13 percent), Empathy (7.78 percent), Creative thinking skills (6.61 percent), Interpersonal relationship skills and Coping with emotions (4.41 percent), Decision making skills (1.17 percent); Self awareness skills and Effective communication skills (0.73 percent).
- v. **Class – X Maths Textbook :** Under CBSE and MBSE textbook, both textbook emphasized and give a highest percentage to Problem solving skills with 81.74 percent and 93.01 percent. This is followed by Critical thinking skills at 15.76 percent and 5.80 percent, while Creative thinking skills appear with 2.48 percent and 0.98 percent in both textbooks. Thus, in the CBSE textbook, the remaining unlisted skills are absent. Interestingly, in the MBSE textbook Effective communication skills and Coping with stress are present each with 0.09 percent.
- vi. **Class – X Science Textbook :** Under CBSE and MBSE textbook, both textbook stressed more with Critical thinking skills with 49.89 percent and 64.14 percent respectively. This skills is followed by Problem solving skills with 29.59 percent and 20.72 percent; Creative thinking skills with 13.53 percent and 10.27 percent respectively. But, under CBSE textbook the skills are followed by Self awareness skills (2.95 percent), Decision making skills and Empathy (1.05 percent), Effective communication skills and Coping with stress (0.63 percent), Coping with emotions (0.42 percent) and Inter personal relationship skills (0.21 percent).

Therefore, under MBSE textbook, the skills are followed by Coping with stress (2.52 percent), Empathy (0.72 percent) and 0.36 percent for Decision making skills, Self awareness skills and Interpersonal relationship skills.

5.1.2. Summarization

In Class IX Social Science, both CBSE and MBSE highlight Critical thinking as the most frequent skill though the supporting skills vary, CBSE emphasizes Creative thinking, Problem solving and stress management while MBSE gives weight to Empathy, Problem solving and Stress management. In Maths, Problem solving dominates across both boards, with CBSE adding Critical and Creative thinking, while MBSE remains limited to only a few skills. In Science, Critical thinking is strongest in both boards, followed by Problem solving and some Creative thinking in CBSE, whereas MBSE covers fewer skills. In Class X, a similar pattern appears: Social Science stresses Critical thinking, Maths emphasizes Problem solving, and Science focuses on Critical thinking, with CBSE showing broader coverage and MBSE more restricted.

5.1.3. Findings of Objective no 2

Objective 2 : To analyze CBSE syllabus with reference to life skills education.

To examine the selected CBSE textbook, the WHO's ten core Life Skills framework was applied to identify and categorize the relevant items and skills. The Life Skills highlighted from each textbook are presented in the following.

- 1. Class – IX Social Science Textbook :** In this textbook, a total of 671 Life Skills items were identified with Critical Thinking emerging as the most frequently represented skill. The analysis was carried out across three main areas: the Content section, the Question section, and the Activity section. Among these, the highest number of skills were found in the Content section, followed by the Question section, while the Activity section reflected the least.

2. **Class – IX Maths Textbook :** In this textbook, 338 Life Skills items were identified, with Problem-Solving emerging as the most prominent and widely expressed skill. The analysis was conducted across three main areas: the Content section, the Question section, and the Activity section. Of these, the majority of Life Skills were reflected in the Question section, followed by the Content section while the Activity section accounted for the least.
3. **Class – IX Science Textbook :** In this textbook, a total of 528 Life Skills items were identified with Critical Thinking accounting for the highest proportion among all skills. The analysis, conducted across three broad areas - Content section, Question section, and Activity section revealed that the largest share of skills appeared in the Question section followed by the Content section, while the Activity section reflected the least.
4. **Class – X Social Science Textbook :** A total of 724 Life Skills items are identified from the textbook which is quite satisfactory in number. Out of this total, Critical thinking skills occupied the highest percentage from the explored items and skills. The textbook is identified in three broad terms – Content section, Activity section and Question section to include and explore the different Life Skills components widely. Thus, among those section Content section contain the highest numbers of skills obtained from the analysis of the textbook, this is followed by Question section and Activity section at the least.
5. **Class – X Maths Textbook :** In this textbook, a total of 482 Life Skills items were identified through systematic analysis. Among these, Problem-Solving skills accounted for the highest proportion. The review was conducted across three broad areas – Content section, Question section, and Activity section for a comprehensive assessment. Overall, the majority of skills were concentrated in the Question section, followed by the Content section with the Activity section reflecting the least.
6. **Class – X Science Textbook :** In this textbook, a total of 473 Life Skills items were identified through analysis. Among these, Critical Thinking emerged as the most prominent skill with the highest percentage. The analysis was carried out across three

main areas – Content section, Question section, and Activity section to ensure broad coverage. Of these, the Content section contained the largest share of Life Skills, followed by the Question section while the Activity section reflected the least.

5.1.4. Summarization

The analysis of Class IX and X CBSE textbooks in Social Science, Mathematics and Science highlights a clear emphasis on specific Life Skills with Critical Thinking and Problem-Solving emerging as the most dominant. Critical Thinking is strongly represented in both Social Science and Science textbooks, reflecting the focus on developing reasoning, evaluation and analytical ability in students. In contrast, the Mathematics textbooks place greater stress on Problem-Solving, encouraging learners to apply logic, strategies and step-by-step reasoning to tackle challenges. Together, these two skills overshadow the presence of other Life Skills, revealing a tendency of the curriculum to privilege cognitive abilities over social and emotional skills.

In terms of textbook structure, the integration of Life Skills is most evident in the Content section and the Question section, which provide the widest coverage of identified skills. The Content section delivers skills through explanations, narratives, and concepts, while the Question section reinforces them through application and assessment. The Activity section, however, remains the least utilized across all subjects, suggesting limited emphasis on experiential and participatory learning activities.

5.1.5. Findings of Objective no 3

Objective 3 : To analyze the MBSE syllabus with reference to Life Skills education.

To examine the selected MBSE textbook, the WHO's ten core Life Skills framework was applied to identify and categorize the relevant items and skills. The Life Skills highlighted from each textbook are presented in the following.

- 1. Class – IX Social Science Textbook :** In this textbook, a total of 528 Life Skills items were identified through analysis. Among these, Critical Thinking emerged as the most frequently represented skill. To provide an in-depth understanding of the textbook's emphasis, the analysis was conducted across three broad areas like Content section, Question section and Activity section. The Content section contained the largest share of Life Skills followed by the Question section, while the Activity section reflected the least.
- 2. Class – IX Maths Textbook :** In this textbook, a total of 844 Life Skills items were identified through analysis. Among these, Problem-Solving emerged as the most dominant and widely expressed skill. To gain a clearer understanding of how these skills are distributed the textbook was examined across three broad areas – Content section, Question section and Activity section. The findings revealed that the Question section contained the largest share of Life Skills followed by the Content section while the Activity section reflected the least.
- 3. Class – IX Science Textbook :** In this textbook, a total of 604 Life Skills items were identified during the analysis. Among these, Critical Thinking emerged as the most significant and widely represented skill. To better understand the distribution of Life Skills, the textbook was examined across three broad areas – Content section, Question section and Activity section. The results showed that the Question section contained the largest share of skills, followed by the Content section, while the Activity section reflected the least.

4. **Class – X Social Science Textbook :** In this textbook, a total of 681 Life Skills items were identified through analysis. Critical Thinking received the highest emphasis among all the skills. To examine their distribution, the textbook was analyzed across three broad categories – Content section, Question section and Activity section. Of these, the Content section contained the largest share of skills, followed by the Question section, while the Activity section reflected the least.
5. **Class – X Maths Textbook :** In this textbook, a total of 1017 Life Skills items were identified. Among these, Problem-Solving emerged as the most prominent skill. For the purpose of analysis, the textbook was examined across three broad areas like Content section, Question section and Activity section. The findings showed that the Question section contained the highest concentration of skills followed by the Content section while the Activity section reflected the least.
6. **Class – X Science Textbook :** In this textbook, a total of 555 Life Skills items were identified. Critical Thinking emerged as the most prominent skill. To provide a deeper understanding of the distribution of Life Skills, the textbook was analyzed across three broad areas – Content section, Question section and Activity section. The Question section contained the largest share of skills, followed by the Content section, while the Activity section reflected the least.

5.1.6. Summarization

Across Class IX and X MBSE textbooks in Social Science, Mathematics and Science, the analysis shows a clear emphasis on Critical Thinking and Problem-Solving. Critical Thinking is predominantly emphasized in Social Science and Science textbooks, reflecting the focus on reasoning, analysis and evaluation skills. Problem-Solving is most prominent in Mathematics textbooks, highlighting logical reasoning and application-based thinking.

Regarding the distribution of skills within the textbooks, the Content section and the Question section consistently contain the majority of Life Skills, providing explanations, conceptual understanding and opportunities for practice. The Activity section however

consistently reflects the least number of Life Skills across all subjects, indicating limited emphasis on experiential or participatory learning. Overall, the curriculum prioritizes cognitive and analytical skills, with Critical Thinking and Problem-Solving being the most strongly represented while practical application through activities remains underemphasized.

5.1.7. Findings of Objective no 4

Objective 4 : To Compare CBSE and MBSE Syllabus with Reference to Life Skills Components

A comparison of CBSE and MBSE syllabi shows both boards emphasize cognitive skills, especially critical thinking and problem-solving, aligning with NEP 2020. However, social and emotional Life Skills like empathy, communication and stress management are underrepresented. CBSE offers slightly broader coverage through activities and contextual questions while MBSE remains heavily content- and exam-focused, with minimal experiential learning. Both boards require stronger integration of social-emotional learning to support holistic, competency-based development and fully realize NEP 2020's vision of balanced education.

5.1.7.1. Comparing Life Skills Integration in CBSE Vs MBSE Class – IX Social Science Textbook

- i. A total of 1,199 Life Skills items were identified across both CBSE and MBSE textbooks. Critical Thinking emerged as the most emphasized skill. Even though all ten WHO core Life Skills are present in both textbooks, the distribution of skills is uneven.
- ii. Both textbooks show strong alignment with NEP 2020 in cognitive skills. The CBSE textbook moderately addresses emotional and social skills, whereas the MBSE textbook shows weak alignment. Activity integration is somewhat adequate in CBSE but limited in MBSE.

5.1.7.2. Comparing Life Skills Integration in CBSE Vs MBSE Class – IX Maths Textbook

- i. A total of 1,182 Life Skills items were identified across both CBSE and MBSE textbooks with Problem-Solving being the most prominent skill. However, the distribution of Life Skills is uneven in both textbooks.
- ii. Both textbooks strongly align with NEP 2020 in cognitive skills. The CBSE textbook shows moderate alignment with emotional and social skills whereas MBSE demonstrates minimal alignment. Activity integration is limited in both textbooks.

5.1.7.3. Comparing Life Skills Integration in CBSE Vs MBSE Class – IX Science Textbook

- i. A total of 1,132 Life Skills items were identified in both CBSE and MBSE textbooks with Critical Thinking being highly represented. However, the distribution of skills across chapters is uneven in both textbooks.
- ii. Both textbooks strongly align with NEP 2020 in cognitive skills, but show minimal alignment in emotional and social skills. In the CBSE textbook, activities are substantial and well-structured whereas the MBSE textbook integrates activities sparingly and inconsistently.

5.1.7.4. Comparing Life Skills Integration in CBSE Vs MBSE Class – X Social Science Textbook

- i. A total of 1,405 Life Skills items were identified in both textbooks, with Critical Thinking being the most emphasized skill. However, the distribution of Life Skills is uneven in both.
- ii. Both textbooks show strong alignment with NEP 2020 in cognitive skills but minimal alignment in social and emotional skills. Activity integration is moderate in the CBSE textbook and very weak in the MBSE textbook.

5.1.7.5. Comparing Life Skills Integration in CBSE Vs MBSE Class – X Maths

Textbook

- i. A total of 1,499 Life Skills items were identified across both textbooks, with Problem-Solving being the most emphasized skill. However, the distribution of Life Skills is uneven showing a heavy focus on specific skills.
- ii. Both textbooks strongly align with NEP 2020 in cognitive skills but show minimal alignment in social and emotional skills. Activity integration is substantial and well-distributed in the CBSE textbook, whereas it is limited and minimal in the MBSE textbook.

5.1.7.6. Comparing Life Skills Integration in CBSE Vs MBSE Class – X Science

Textbook

- i. A total of 1,028 Life Skills items were identified in both CBSE and MBSE textbooks, with Critical Thinking being the most prominently represented skill. However, the distribution of Life Skills is uneven and heavily skewed toward specific skills in both textbooks.
- ii. Both textbooks show strong alignment with NEP 2020 in cognitive skills, but minimal alignment in emotional and social skills. Activity integration is substantial and well-distributed in the CBSE textbook whereas it is minimal in the MBSE textbook.

5.1.8. Summarization

A comparison of CBSE and MBSE textbooks across Class IX and X Social Science, Mathematics and Science shows a consistent emphasis on cognitive skills, particularly Critical Thinking in Social Science and Science and Problem-Solving in Mathematics. These skills are the most prominently represented across all textbooks, reflecting strong alignment with NEP 2020 in developing analytical and reasoning abilities. However, the distribution of Life Skills across chapters is uneven in both boards, with certain skills receiving heavy focus

while others are underrepresented. Social and emotional skills, including empathy, communication, and stress management, show minimal to moderate integration with CBSE providing slightly better coverage than MBSE. Activity-based learning is more substantial and well-structured in CBSE textbooks, contributing to experiential understanding, whereas MBSE remains heavily content- and examination-focused, with sparse and inconsistent integration of activities.

Overall, while both boards excel in cognitive skill development, there is a clear need for stronger incorporation of social-emotional and activity-based learning to achieve holistic, competency-based education as envisioned by NEP 2020.

5.1.9. Discussions for Objective 1,2,3,4

The major findings of the present study are outlined below, along with possible explanations for them.

A detailed study of Class IX and X Social Science, Mathematics, and Science textbooks from both CBSE and MBSE shows a clear pattern in teaching. The main focus is on higher-order thinking skills while social, emotional and practical learning skills get much less attention. This matches the goals of the National Education Policy (NEP, 2020, p. 12), which encourages the growth of critical thinking and problem-solving from an early age. In line with the present study Brookhart, (2010); Abrami et al.,(2015); Wagner, (2010); Savery,(2006); Facione, (2015); Lalbiakfeli and Vemula(2024); Rothman, (2016) also observed that Thinking skills, particularly critical thinking and problem solving skills give significant importance in the teaching context which align with the emphasis highlighted in the textbook findings and how such skills can be integrated in a curriculum. But at the same time a gap is pointed out that even though the broader vision of NEP, which aims for all-round development is not fully met. Too much focus on cognitive growth often reduces the importance of social and emotional learning which might lead to an unbalanced curriculum that does not fully prepare students for real-life challenges (Nava et al., 2023, p. 45);

Martinez, M., & Gomez, V. (2024); Hachem et.al., (2022). This highlights the difficulty of creating an education system that develops the whole child, not just their thinking abilities.

In both CBSE and MBSE textbooks, the most emphasized skills are clearly Critical Thinking and Problem-Solving. Within Social Science, Critical Thinking takes center stage. Encouraging students to analyze historical events, interpret geographical data, break down political concepts and reason through economic issues promotes inquiry and the formation of logical, evidence-based opinions key skills for responsible citizenship. Findings which align with other work shows that such active, reflective and analytical approaches in social science classrooms help students develop critical and active citizenship, empowering them to engage with societal issues, participate in democratic processes, and make informed decisions in real-life contexts Fuentes-Moreno, C et.al.,(2020); Svyrydenko, D., & Revin, F. (2024). These methods foster environments where students learn to reflect, analyze, interpret and dialogue, all of which are essential for preparing responsible citizens Fuentes-Moreno, C et.al.,(2020).

The same strong focus on Critical Thinking can be seen in Science textbooks. In line with other findings Forawi, S. (2016); Vieira, R., & Tenreiro-Vieira, C. (2016); Holmes, N., Wieman, C., & Bonn, D. (2015) shows that science education standards and textbooks prioritize critical thinking skills. These include designing and conducting experiments, critically analyzing evidence, and logically connecting evidence to explanations. Such process-oriented standards are rated higher for promoting critical thinking than content-focused standards, highlighting the field's commitment to developing students' abilities to reason scientifically and judge the validity of scientific claims. Science education aims to cultivate a mindset where students not only acquire knowledge but also learn to question, analyze and make informed decisions based on data. Activities such as hypothesis testing, data interpretation, and critical evaluation of arguments are integral to this process. Studies demonstrate that explicit instruction and repeated practice in these skills rather than rote memorization which lead to significant and lasting improvements in students' critical thinking and scientific reasoning Holmes, N., Wieman, C., & Bonn, D. (2015); Rowe, M.

et.al.,(2015). Singh and Yaduvanshi (2015) this shift in textbooks toward building analytical and reasoning abilities is a positive response to international educational needs. It ensures that students are better prepared to handle complex, real-world issues with clarity and problem-solving skills.

Complementing this, Problem-Solving is the undisputed focal point in Mathematics. The curriculum for both boards CBSE and MBSE is fundamentally designed around presenting students with a series of structured and unstructured problems. Solving these requires the application of logical reasoning, strategic planning and step-by-step analytical thinking. Mathematics textbooks are designed with exercises that go beyond simple computational accuracy, often requiring students to understand the underlying processes and apply concepts to solve problems. Analyses of textbooks from various countries show that while many tasks can be solved by following templates, a significant portion especially in high-performing curricula demand that students construct solutions, interpret information, and apply mathematical reasoning to real-world or novel situations Jäder, J. et al.,(2020); Wijaya, A (2015); Vicente, S.et al.,(2022); Fan, L., & Zhu, Y. (2000). Another study Jamil, M., Bokhari, T., & Ahmad, D. (2024); Jamil, M., Mehmood, W., & Shah, F. (2024); Jamil, M., Mehmood, W., & Saleem, A. (2024); Oktafianto, W.et.al., (2019) also find that the pervasive presence of the cognitive skills throughout the Content and Question sections of all textbooks underscores their perceived paramount importance. These sections serve as the primary vehicles for delivering conceptual knowledge and assessing comprehension, thereby reinforcing the centrality of Critical Thinking and Problem-Solving within the assessed curriculum.

While textbooks often prioritize the development of thinking and problem-solving skills, this strong focus can result in less attention being given to other essential Life Skills. In line with other studies Majadly, H., & Yahya, A. (2024); Uşakli, H. (2017) shows that skills linked to social and emotional learning (SEL) such as empathy, communication, teamwork and stress management are among the least emphasized in many educational materials. In some cases, content analyses of textbooks reveal that although SEL

competencies are recognized as important for student well-being and academic achievement, their representation is often imbalanced or minimal compared to cognitive skills. In some cases, interpersonal relationship skills may appear more frequently but crucial aspects like social awareness, empathy and effective communication are underrepresented, especially in the early grades where their integration would be most effective Majadly, H., & Yahya, A. (2024). In CBSE textbooks, there are some mentions of creative thinking and stress management in Social Science, but these appear only occasionally and without consistency. In MBSE textbooks, such skills are given even less space Annisah, S.et.al.,(2023); Sibon, I.et.al.,(2024). This gap is important because as Elias (2014) points out empathy and similar skills are vital for encouraging kindness, building positive relationships and supporting students' overall well-being. In today's connected and stressful world, knowing how to manage emotions, communicate clearly and respect different viewpoints is not optional it is essential for balanced growth. Since these skills are rarely highlighted in the curriculum, it shows they are not valued as highly as cognitive skills, which may leave students unprepared for the emotional and social challenges they will face in life Martinez, M., & Gomez, V. (2024); Mahoney, J.et, al., (2024); Cipriano, C (2023).

Making the problem worse is the very limited use of the Activity sections in textbooks. In almost every subject and in both boards CBSE and MBSE, this part shows the weakest link to Life Skills. In many cases, activities are either absent or fail to address real-life situations, resulting in missed opportunities for students to develop practical Life Skills through classroom engagement Jamil, M et al., (2024); Jamil, M and Hassan, M.(2024). Instead of giving students a chance to learn by doing through teamwork, problem-solving and creative tasks the activity sections are often very short, poorly designed or missing altogether. This shows a big gap in practical and experiential learning. The current approach still follows a traditional style of teaching where the focus is mainly on delivering content and preparing for written exams Ferreira, S. (2021); Pherson-Geyser, Get.al., (2020). As a result, students get fewer chances to connect what they learn in theory with real-life practice. This issue is even more noticeable in MBSE textbooks, which are described as being very exam based and content-heavy. Shukla and Singh (2019) also criticize the Indian curriculum

for being too theoretical and not offering enough engaging, activity-based learning, which is necessary to turn knowledge into real skills.

According to WHO ten core Life Skills, they are essential for adaptive and positive behavior : self-awareness, empathy, critical thinking, creative thinking, decision making, problem-solving, effective communication, interpersonal relationship, coping with stress and coping with emotions. WHO recommends that these skills be systematically integrated into school curricula and textbooks, not just as isolated topics but woven throughout content, questions, and activities to promote psychosocial competence and prepare students for real-life challenges Salunke, K., & Lashkari, J. (2020). When comparing these guidelines to the actual integration of Life Skills in CBSE and MBSE textbooks for Classes IX and X, a clear pattern emerges. Both boards place the strongest emphasis on cognitive skills, particularly critical thinking and problem-solving, especially in Social Science, Mathematics, and Science Jamil, M.et.al.(2024); S, A., & Saxena, L. (2024); Salunke, K., & Lashkari, J. (2020). CBSE textbooks show some added focus on creative thinking and stress management, while MBSE gives limited attention to empathy and stress management in Social Science. However, most other Life Skills such as self-awareness, communication, interpersonal skills, coping with emotions and decision making skills are largely missing, particularly in the activity sections of the textbooks.

NEP 2020 also stated that “With the rapidly evolving job market and global environment, it is vital that children are equipped not just with knowledge, but with the ability to learn how to learn. Education must therefore shift from rote content delivery to fostering critical thinking, problem-solving, creativity and multidisciplinary approaches. It should also encourage innovation, adaptability and the capacity to grasp new ideas across emerging and dynamic fields, while remaining grounded in the Indian context”.

When mapped the textbook with the vision of NEP 2020, the emphasis on analytical and reasoning skills aligns well with the policy’s call for developing critical and problem-solving abilities. Yet, the uneven distribution of Life Skills and the underrepresentation of social-emotional dimensions such as empathy, communication and collaboration reveal a gap

in achieving holistic education. While CBSE makes modest progress in fostering creativity and activity-based learning, MBSE remains heavily content-driven. To truly embody NEP 2020's competency-based and holistic approach, both boards need to expand experiential, social and emotional skill integration.

Thus the textbook analysis presents a clear picture: both CBSE and MBSE excel in systematically embedding and promoting cognitive skills like Critical Thinking and Problem-Solving, thereby aligning with the academic and analytical aspirations of NEP 2020. Yet, this very strength unveils a critical weakness. The comparative neglect of social-emotional skills and the failure to leverage activity-based learning create a lopsided educational experience. For the boards to truly fulfil the transformative and holistic vision of NEP 2020, a deliberate and strategic redesign is necessary. This would involve weaving SEL skills explicitly into the fabric of content and questions and most importantly, revitalizing the Activity section to become a central hub for developing empathy, creativity, collaboration and practical problem-solving. Without this balanced integration, education risks producing adept thinkers who may lack the emotional intelligence and practical skills essential for navigating the complexities of the 21st century.

5.1.10. Findings of Objective no 5

Objective : To Study the Perception of the Secondary School Teacher on Life Skills Education.

5.1.10.1. Levels of Secondary School Teacher (MBSE & CBSE) towards WHO Life Skill Components

- i. The analysis of Life Skill levels among secondary school teachers in Mizoram shows that the majority demonstrate moderate overall Life Skills, with the mean score indicating central tendency and a standard deviation reflecting moderate variation.
- ii. About 7.22% of teachers fall in the extremely high category, 2.41% in the high category and 19.27% above average. The largest proportion, 38.55%, is at the average

level, while 25.30% are below average, 7.22% are low and 1.20% are extremely low, indicating room for improvement.

According to the Findings Under Dimension Wise

- i. For communication skills 2.41% of teachers are at an extremely high level, 10.84% at high and 13.25% above average. The largest group 39.75% is average, while 16.86% each fall into below average and low categories, with no teachers in the extremely low category.
- ii. Regarding collaboration skills 1.20% are extremely high, 9.64% high, 20.48% above average and 40.96% average, with 18.07% below average, 7.23% low and 2.41% extremely low.
- iii. In creative thinking 3.61% are extremely high, 7.23% high, 9.64% above average, 46.98% average, 20.48% below average, 10.84% low and 1.20% extremely low.
- iv. For critical thinking 4.82% are extremely high, 3.61% high, 22.89% above average, 38.55% average, 22.89% below average, 4.82% low and 2.41% extremely low, showing moderate skills with scope for improvement.

5.1.10.2. Difference Among Secondary School Teachers' Perception Towards Life Skills of Mizoram with Reference to Board

- i. The findings indicate that based on the statistical results, CBSE teachers demonstrate stronger Life Skills than their MBSE counterparts.
- ii. The results reveal that no statistically significant difference was found in the communication skills of CBSE and MBSE secondary teachers in Mizoram.
- iii. The statistical analysis indicates that CBSE teachers possess stronger collaboration skills compared to MBSE secondary school teachers in Mizoram.

- iv. The results suggest that MBSE teachers outperform CBSE secondary school teachers in Mizoram in terms of creative skills.
- v. The statistical findings shows that CBSE teachers exhibit stronger critical skills compared to MBSE secondary school teachers in Mizoram.

5.1.10.3. Difference in Life Skills Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Gender

- The findings indicate that there is no statistically significant difference in the Life Skills of male and female secondary school teachers in Mizoram.

5.1.10.4. Difference in the Life Skills Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to District – wise

- The results show that district-wise comparison of secondary school teachers in Mizoram reveals no statistically significant difference in their perception towards Life Skills.

5.1.10.5. Difference Among Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Educational Qualification

- i. The statistical analysis reveals that postgraduate teachers demonstrate stronger Life Skills compared to their undergraduate counterparts in Mizoram.
- ii. The results indicate no notable difference in communication skills between undergraduate and postgraduate secondary school teachers in Mizoram.
- iii. Findings suggest no significant gap in collaborative skills between undergraduate and postgraduate secondary teachers in Mizoram.
- iv. The evidence highlights a clear difference in creative skills, with postgraduate teachers achieving higher levels than undergraduate teachers in Mizoram.

- v. The study confirms a significant difference in critical skills, where postgraduate teachers outperform undergraduate teachers in Mizoram.

5.1.10.6. Difference in the Life Skills Among Secondary School Teachers of Mizoram with Reference to Locality

- The results show that secondary school teachers in Mizoram, whether from metro, urban or rural areas do not differ significantly in their perception towards Life Skills.

5.1.11. Findings of Objective no 6

Objective : To Study the Awareness Level of Secondary School Students Towards Life Skills Education.

5.1.11.1. Levels of Life Skills Awareness of Secondary School Students in Mizoram

- i. The data reveals that, out of 1,014 responses, the majority of secondary school students in Mizoram 79.29% possess moderate Life Skills. Additionally, 9.57% of students demonstrate high life skills, while 11.14% exhibit low or poor Life Skills. The mean Life Skills awareness score among these students is 138.60, with a standard deviation of 14.828.
- ii. The findings indicate that most secondary students in Mizoram have average Life Skills, while the proportions of students with high and low Life Skills are relatively close to each other.

According to the Findings Under Dimension Wise

Secondary school students in Mizoram both CBSE and MBSE shows a clear picture that majority of the students have a moderate Thinking Skills with 79.98% while 9.46% have a high Thinking skills and 10.55% have poor Thinking skills.

Pertaining to the components within the domain of Thinking skills:

- (i) Under Critical thinking skills a high percentage of 79.59 percent of secondary students have average critical thinking skills while 12.23 percent of secondary students have good critical thinking skills and 8.19 percent exhibit poor critical thinking skills.
- (ii) A significant proportion of secondary students 81.26 percent have average creative thinking abilities whereas 10.65 percent demonstrate good creative ability and 8.09 percent demonstrate poor abilities.
- (iii) Of the pupils, 76.63 percent have average problem-solving abilities, 10.36 percent have good problem-solving abilities and 13.02 percent have low abilities.
- (iv) 84.71 percent have a high percentage of moderately skilled self-awareness, 3.16 percent have good self-awareness and 12.13 percent have poor skill.
- (v) A significant proportion of 82.05 percent indicates that pupils have moderate decision-making abilities whereas 6.41 percent demonstrate good decision-making skills and 11.54 percent demonstrate poor skills.

The secondary school students (CBSE and MBSE) both shows moderate Social Skills by constituting a big percentage of 83.73 percent while 8.19 percent of students have good social skills and 8.08 percent shows poor social skills.

Pertaining to the components within the domain of Social skills:

- (i) A high number of 84.02 percent indicates that secondary students have Interpersonal relationship skills that are moderate whereas 9.47 percent have good skills and 6.51 percent have poor skills.
- (ii) The largest percentage, 80.13 percent, indicates that secondary school pupils have moderate Effective Communication abilities while 11.24 percent have good communication skills and 8.58 percent have weak communication skills.

A clear picture is given that secondary school students show moderate Emotional Skills with a high percentage of 80.67 percent, followed by 8.18 percent with a good emotional skills and 11.14 percent with low emotional skills.

Pertaining to the components within the domain of Emotional skills:

- (i) A high percentage of 86.49 percent implies that secondary students have moderate coping with emotions, 4.54% suggest that the students have good emotional intelligence and 8.97% indicate that the students have bad emotional intelligence.
- (ii) With 84.81 percent which is high in number indicates that the students have moderate coping with stress skills while 8.18 percent depicts that the students have good coping with stress ability and 7.00 percent shows that the students have poor coping with stress skills.
- (iii) A large number of 79.68 percent comes under moderate which shows that the students have average empathy skills while 10.55 percent depict that the students have good empathy skills and 9.76 percent shows a poor skills in empathy.

5.1.11.2. Difference in the Life Skills Awareness of Secondary School student of Mizoram with reference to Class (MBSE & CBSE)

- i. The findings reveal a distinct difference in Life Skills among secondary school students in Mizoram across classes IX and X from both CBSE and MBSE boards, with Class X students demonstrating greater awareness of Life Skills compared to Class IX students.
- ii. The findings indicate that there is no significant difference between Class IX and X students in Thinking skills according to the statistical results, although Class X students appear to perform slightly better in this area.
- iii. Similarly, the results show no significant difference between Class IX and X students in Social skills yet Class X students seem to have a slight advantage over Class IX students.
- iv. In contrast, the findings reveal a significant difference in Emotional skills with Class IX students performing slightly better than Class X students according to the statistical analysis.

5.1.11.3. Difference in the Life Skills Awareness of Secondary School student of Mizoram with reference to Board (MBSE & CBSE)

- i. The findings show a noticeable difference in Life Skills among secondary school students in Mizoram with CBSE students displaying higher awareness of Life Skills than MBSE students.
- ii. The findings indicate no significant difference in Thinking skills between CBSE and MBSE students; however CBSE students scored slightly higher according to the statistical results.
- iii. The findings indicate that there is no significant difference in Social skills between CBSE and MBSE students.
- iv. However, a significant difference is observed in Emotional skills, with CBSE students achieving notably higher results than MBSE students.

5.1.11.4. Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to Family

- i. The findings reveal a significant difference in Life Skills awareness between secondary school students from nuclear and joint families, with students from joint families performing better than those from nuclear families.
- ii. According to the statistical results, students belonging to joint families demonstrate higher proficiency in Thinking skills compared to students from nuclear families.
- iii. The findings suggest that there is no significant difference between students from joint and nuclear families in terms of Social skills.
- iv. Additionally, the results indicate that students from joint families exhibit stronger Emotional skills than those from nuclear families.

5.1.11.5. Difference in the Life Skills Awareness of Secondary School Students of Mizoram with Reference to Gender

- The findings indicate that male and female secondary school students from both CBSE and MBSE in Mizoram do not differ significantly in having awareness towards Life Skills education.

5.1.11.6. Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to Locality

- The findings reveal that secondary school students from both CBSE and MBSE in Mizoram show no significant difference in Life Skills awareness based on their locality whether urban or rural.

5.1.11.7. Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to Economical Status of Family

- The findings indicate that secondary school students from both CBSE and MBSE in Mizoram do not exhibit a significant difference in Life Skills awareness according to their family's economic status.

5.1.11.8. Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to Parental Education

- The findings reveal that secondary school students from both CBSE and MBSE in Mizoram show no significant difference in Life Skills awareness based on their parents' educational background.

5.1.11.9. Difference in the Life Skills Awareness of Secondary School Student of Mizoram with Reference to District – wise

- i. The statistical results indicate a significant difference in Life Skills awareness among secondary school students across different districts in Mizoram.

- ii. The findings suggested that Aizawl district has a better awareness towards Life Skills education at the secondary school level in Mizoram.
- iii. The findings indicate that there is no significant difference in Life Skills among secondary school students from the four districts of Mizoram, namely Aizawl, Lunglei, Champhai, and Kolasib.
- iv. The findings indicate a significant difference between Mamit district and the other four districts, with Mamit showing the lowest level of Life Skills awareness among them.

5.1.12. Findings of Objective no 7

Objective : To Find Out the Activities Implemented in the Secondary School of Mizoram.

- i. Headmasters in State Government schools are aware of Life Skills but often consider them secondary to board exam performance. In contrast, CBSE schools demonstrate high awareness, with structured training and an understanding that Life Skills are essential for holistic education.
- ii. State board teachers primarily rely on textbook-based, exam-oriented teaching due to time pressure with limited use of ICT or activity-based methods. CBSE teachers, however, incorporate ICT tools, role-play, seminars, storytelling and other interactive methods to integrate Life Skills effectively into classroom learning.
- iii. State board schools conduct activities like social service, cleaning drives, annual sports, ECO clubs, NCC and occasional outings, often constrained by limited resources. CBSE schools offer a wider range of activities, including professionally coached sports, gardening, yoga, excursions, vocational training, social service days and ICT-enabled learning.

- iv. State board schools rarely conduct formal Life Skills programmes; when included, they are usually part of orientation programmes and not explicitly labeled as Life Skills. CBSE schools implement formal Life Skills programmes more systematically, supported by regional centers, external experts and teacher training modules aligned with NEP 2020.
- v. State board schools place greater emphasis on self-awareness, critical thinking, creative thinking and social service values. CBSE schools stress communication, problem-solving, stress management, and treat all Life Skills as equally important depending on student needs.
- vi. State board schools face severe time constraints, syllabus pressure and lack of ICT and training. CBSE schools experience fewer constraints due to better infrastructure, teacher training, and structured modules that allow effective integration of Life Skills.

5.1.13. Discussion for Objective 5,6 and 7

The major findings of the present study are outlined below, along with possible explanations for them.

(i) The analysis of Life Skill levels among secondary school teachers in Mizoram shows that majority demonstrate moderate overall Life Skills.

Discussion : Consistent with the current study, previous research by Kaur and Singh (2021), the National Council for Teacher Education (2019), Desai and Choudhury (2022), Gupta and Mehra (2020), and Joshi and Patel (2018) reported similar findings, supporting the results observed in this study.

The majority of secondary school teachers demonstrate moderate overall Life Skills due to a combination of professional experience, training and exposure to classroom challenges. While teachers regularly engage in activities that develop communication, problem-solving and decision-making abilities many have limited opportunities for structured life skills training or professional development focused specifically on these

competencies. Additionally, heavy workload, curriculum pressures and administrative responsibilities may restrict the time and energy teachers can devote to consciously enhancing their interpersonal, emotional and leadership skills. As a result, most teachers reach a moderate level, reflecting practical experience but not full mastery of all Life Skills.

(ii) CBSE teachers demonstrate stronger Life Skills than their MBSE counterparts.

Discussion : In line with the present study some findings from Tiwari, P. (2020); Behrani, P. (2016); S, A., & Saxena, L. (2024) also found a similar results regarding this issues.

CBSE teachers are likely to demonstrate stronger Life Skills than their MBSE counterparts because of differences in training, exposure and pedagogical practices. CBSE places greater emphasis on holistic education, regularly organizing workshops, seminars and professional development programmes that integrate Life Skills with classroom teaching. Teachers are encouraged to adopt interactive methods such as group discussions, role-play, project work and ICT-based activities, which naturally nurture communication, critical thinking and problem-solving abilities. In contrast, MBSE teachers often operate within a more exam-driven environment where the priority is completing the syllabus and preparing students for board examinations. Limited access to resources, fewer opportunities for capacity building and a heavy reliance on traditional textbook-based teaching reduce the scope for integrating Life Skills into everyday practice. Consequently, while MBSE teachers may be aware of Life Skills, their practical application remains less pronounced compared to the structured and systematic approach adopted in CBSE schools.

(iii) Postgraduate teachers demonstrate stronger Life Skills compared to their undergraduate counterparts in Mizoram.

Discussion : The present findings is in line with the findings of Erden, H. (2019); Ermolaeva, M., & Ignateva, E. (2021); Sethi, A.et.al., (2018) found their results regarding the current findings.

Postgraduate teachers display stronger Life Skills than their undergraduate counterparts because advanced training equips them with deeper theoretical knowledge, reflective practice, and practical exposure. Through dissertations, seminars and research projects they develop critical thinking, problem-solving, time management and communication abilities (Erden, 2019; Ermolaeva & Ignateva, 2021). Their qualifications also give them greater access to professional networks, in-service training and leadership opportunities, allowing them to apply these skills in varied contexts. Such experiences foster adaptability, empathy, and decision-making capacities which are less emphasized in undergraduate programmes. Consequently, postgraduate teachers exhibit greater confidence and a more learner-centred approach, reflecting stronger integration of life skills in practice.

(iv) Secondary students in Mizoram have average Life Skills, while the proportions of students with high and low Life Skills are relatively close to each other.

Discussion : The findings of the present study are consistent with those of Pandey and Pandey (2024), Subramaney and Andrade (2022), Cohen and Swerdlik (2018), and Lee and Choi (2021), who similarly reported that most students exhibit average levels of Life Skills.

Most secondary students possess average Life Skills, with the proportions of students exhibiting high and low levels being relatively similar. This pattern reflects the general stage of development in adolescence, during which students gradually acquire abilities such as communication, problem-solving, decision-making and emotional regulation but have not yet fully mastered them (Steinberg, 2014). School environments, teaching practices and curriculum design play a significant role in shaping these skills (WHO, 1997). Furthermore, research has shown that structured Life Skills education in schools can enhance self-efficacy, emotional regulation and coping strategies, supporting the overall development of these competencies (Mohan & Sharma, 2021). In many cases, Life Skills education is incorporated in a limited or inconsistent manner, resulting in most students remaining at an intermediate level (WHO, 1997). Factors such as family support, peer influence, socio-economic background and exposure to co-curricular activities further contribute to variations, which explains why the numbers of students with high and low Life Skills are roughly comparable

(Mohan & Sharma, 2021; Steinberg, 2014). Overall, this distribution highlights the need for targeted interventions and structured Life Skills programs to help students progress from average to higher levels of competency (Narvaez & Lapsley, 2016).

(v) A distinct difference in Life Skills among secondary school students in Mizoram across classes IX and X from both CBSE and MBSE boards, with Class X students demonstrating greater awareness level of Life Skills compared to Class IX students.

Discussion : The current findings align with those of Kaur and Singh (2022), Steinberg (2017), Patil and Deshpande (2021), and Gupta and Mehrotra (2019), who also observed that Class X students perform better than Class IX students across various issues.

The observed difference in Life Skills between Class IX and Class X students can be attributed to several factors. Class X students have had an additional year of schooling, which provides more exposure to both formal and informal learning experiences that promote Life Skills such as communication, problem-solving, decision-making and emotional regulation. They are more likely to have participated in co-curricular activities, workshops and classroom interactions that reinforce these skills (Kaur & Singh, 2022; Patil & Deshpande, 2021). Additionally, the curriculum for higher classes often incorporates more opportunities for critical thinking, collaborative projects and applied learning enabling students to practice and refine their abilities. Cognitive and emotional development also progresses with age, allowing Class X students to better understand and manage themselves and their relationships (Steinberg, 2017; Gupta & Mehrotra, 2019; Durlak et al., 2020). Collectively, these factors contribute to the higher awareness and proficiency in Life Skills observed among Class X students compared to those in Class IX.

(vi) Difference in Life Skills among secondary school students in Mizoram with CBSE students displaying higher awareness level of Life Skills than MBSE students.

Discussion : Consistent with the current study, other relevant research by Nanda and Dash (2021), Reddy and P. K. (2019), Sharma and Gupta (2022), and Khan and Choudhury (2020) also reported similar findings in their studies.

The difference in Life Skills between CBSE and MBSE board secondary school students can be attributed to variations in curriculum design, teaching methodologies and exposure to skill-based learning. CBSE schools generally emphasize holistic development alongside academic learning, integrating Life Skills education into classroom activities, co-curricular programs and assessments. Students are frequently engaged in group discussions, projects, role-plays and problem-solving exercises that foster communication, critical thinking, decision-making and emotional regulation. In contrast, many state board schools follow a more exam-oriented approach, focusing heavily on textbook content and rote learning, which limits opportunities for practicing and developing Life Skills (Nanda & Dash, 2021; Reddy & P. K., 2019; Sharma & Gupta, 2022; Khan & Choudhury, 2020). Additionally, CBSE students often have access to better resources, teacher training and exposure to workshops or seminars that emphasize Life Skills, giving them a practical edge (Jain & Deshpande, 2018; Patil & Deshpande, 2021). Collectively, these structural and pedagogical differences contribute to the higher awareness and application of Life Skills among CBSE students compared to their state board counterparts.

(vii) Difference in Life Skills awareness between secondary school students from nuclear and joint families with students from joint families performing better than those from nuclear families.

Discussion : Consistent with the current findings, previous studies by Desai and Dubey (2012), Shreeniwas (1999), Chawla and Sandhu (2020), Chadda and Deb (2013), and Ranganathan (2018) have reported similar patterns and results, providing further justification for the present study.

Students from joint families often perform better in Life Skills compared to those from nuclear families due to the richer social environment and greater exposure to interpersonal interactions. In a joint family, children grow up observing and participating in the daily functioning of a larger household, which includes multiple adults and siblings. This environment naturally provides opportunities to develop communication, empathy, cooperation, conflict resolution and decision-making skills. Children learn to negotiate, share

responsibilities and manage relationships with diverse personalities, fostering emotional intelligence and social competence (Chadda & Deb, 2013; Chawla & Sandhu, 2020; Ranganathan, 2018). In contrast, students from nuclear families have fewer day-to-day interactions beyond parents and possibly one sibling, which may limit their opportunities to practice and refine these skills. Furthermore, joint families often offer more guidance, mentorship and support from extended family members, helping children navigate challenges effectively (Desai & Dubey, 2012; Shreeniwas, 1999). Collectively, these factors contribute to stronger Life Skills among students from joint families, giving them an advantage over their nuclear family counterparts.

(viii) Significant difference in Life Skills awareness among secondary school students across different districts in Mizoram.

Discussion : The findings of the present study are consistent with those of Kingdon (2017), Jha and Jhingran (2005), Singh and Nath (2021), Drèze and Kingdon (2001), and Bhattacharjea and Ramanujan (2019), who also reported similar results in their research.

The significant disparity in Life Skills awareness between Mamit district and other districts in Mizoram can be attributed to a combination of geographical, socioeconomic and infrastructural factors. Mamit, being a more remote and rural district, likely faces challenges related to accessibility and resource allocation that impact educational quality. Schools in such areas often have limited access to trained teachers, modern teaching materials and opportunities for co-curricular activities that are crucial for developing Life Skills. In contrast, districts like Aizawl the state capital benefit from greater urbanization, better educational infrastructure and more exposure to diverse learning environments. Furthermore, socioeconomic conditions including parental literacy and community engagement in education tend to be more favorable in developed districts, providing students with a supportive ecosystem for holistic development. These structural inequalities create an environment where students in less developed districts like Mamit have fewer opportunities to cultivate Life Skills compared to their peers in more advantaged regions.

(ix) Studying the different activities implemented in the Secondary school of Mizoram.

In order to identify and know the true applications of Life Skills in school, the researcher has organized a semi structure interview with the Headmasters' of each school visited. Thus, the comparison between State Government and CBSE schools reveals marked differences in the awareness, implementation and prioritization of Life Skills education. In State Government schools, headmasters are aware of Life Skills but often view them as secondary to board exam performance, a perspective that is reflected in the predominantly textbook-based and exam-oriented teaching approach (Kumar & Singh, 2019). This prioritization is compounded by significant systemic barriers, including time constraints, limited resources and a lack of ICT tools or structured training for teachers which further restrict the effective integration of Life Skills into the curriculum (National Council of Educational Research and Training NCERT, 2020). While co-curricular activities such as social service, cleaning drives, annual sports, ECO clubs, NCC and occasional outings are conducted, research suggests they are often constrained by logistical challenges and are largely perceived as supplementary rather than as core components of holistic education (World Bank, 2018). Formal Life Skills programmes are rarely implemented and when present, are typically embedded within orientation sessions without explicit recognition. The focus in these schools tends to be on self-awareness, critical thinking, creative thinking and social service values.

In contrast, CBSE schools demonstrate high awareness of Life Skills supported by structured teacher training and alignment with NEP 2020. Teachers actively use ICT, role-play, seminars, storytelling and other interactive methods to promote Life Skills. Activities are diverse, including professionally coached sports, yoga, gardening, vocational training, excursions and social service days. Formal Life Skills programmes are systematically implemented with support from regional centers and experts. CBSE schools emphasize communication, problem-solving, stress management and adapt Life Skills to student needs, benefiting from better infrastructure and fewer time constraints, allowing holistic education to flourish.

5.2. Recommendation

The textbook analysis reveals a significant imbalance in Life Skills integration, with an overemphasis on Thinking Skills and a neglect of Social and Emotional Skills. The following recommendations are proposed for both MBSE and NCERT/ CBSE textbooks:

1. Achieve Balanced Skill Integration: Curriculum framers must ensure a deliberate and equitable representation of all ten WHO core Life Skills across all subjects. Specifically, Social Skills (Interpersonal Relationships, Effective Communication) and Emotional Skills (Empathy, Coping with Stress and Emotions, Self-Awareness) should be integrated with the same intentionality as Critical Thinking and Problem-Solving in both textbook.

2. Revitalize the 'Activity' Section: Transforming the activity sections from being barren or procedural into dynamic, experiential learning hubs. Activities should be designed to promote collaboration, role-playing, debates, project-based learning and real-world problem-solving that naturally foster social and emotional competencies.

3. Incorporate Real-Life Contexts and Case Studies: In subjects such as Mathematics and Science, problems and exercises should be designed around real-life contexts that encourage ethical reasoning, teamwork and emotional understanding, rather than focusing solely on abstract or procedural tasks. Similarly, in Social Science textbooks, particularly those of MBSE, incorporating more historical content related to Mizo culture and society could greatly enhance students' understanding of their heritage, broaden their perspectives and deepen their appreciation of cultural and societal dynamics.

4. Align Explicitly with NEP 2020's Holistic Vision: Textbook revisions must consciously align with the multidisciplinary and socio-emotional learning (SEL) goals of the National Education Policy 2020 in both textbook. This requires moving beyond a purely academic focus to explicitly include activities that build character, resilience and teamwork.

5. Design Reflective and Metacognitive Components: Incorporating prompts, reflective journals, and self-assessment questions at the end of chapters or activities can encourage

students to think critically about their learning, emotions, and decision-making, thereby enhancing self-awareness. Additionally, including a reference section either at the end of each chapter or at the conclusion of the textbook, rather than sporadically across books, can significantly benefit learners by providing consistent access to sources. This practice is particularly lacking in MBSE textbooks, where reference sections are generally absent, limiting students' ability to explore further reading and develop a habit of academic inquiry.

6. Enhance Visuals and Inclusive Design: Improve the quality of images, diagrams and layout to be more inclusive and engaging. Visuals should depict diverse situations that can spark discussions on empathy, diversity and different perspectives in both textbook.

7. Provide Teacher Guidance Notes: Include supplementary notes or a teacher's handbook that suggests specific methodologies for facilitating Life Skills through the textbook content, helping teachers move beyond traditional lecture-based methods especially for MBSE teachers.

8. Introduce a Dedicated Life Skills Supplement or Textbook: For boards like MBSE, consider introducing a separate, graded textbook or a well-structured supplement focused exclusively on Life Skills education, which can be used alongside core subject textbooks to ensure guaranteed coverage.

9. Reframing of textbook : In the MBSE board, textbooks are structured with extensive chapters, leaving insufficient time for teachers and students to participate in activities that foster diverse skill development. Consequently, the emphasis is placed on finishing the syllabus rather than engaging learners in practical experiences that build essential Life Skills.

The quantitative data shows that the majority of students and teachers possess only moderate Life Skills, with significant gaps based on board, district and qualification. The interview data highlights implementation challenges. The following recommendations target systemic and pedagogical improvements:

1. Mandatory and Structured In-Service Teacher Training (INSET): Conducting compulsory, high-quality training workshops for all secondary school teachers on the philosophy and pedagogy of Life Skills education. This training should equip the teacher with practical strategies to integrate Life Skills into their daily teaching, moving beyond theoretical understanding.

2. Develop a Whole-School Approach to Life Skills: Life Skills education should not be confined to classrooms. Schools should create a positive and supportive school climate through morning assemblies, student councils, peer-mentoring programs and counseling services that collectively reinforce Life Skills.

3. Bridge the District-Wide Gap (Especially for Underserved Areas): The significant disparity identified in districts like Mamit calls for targeted intervention from the state education department. This includes allocating better resources, infrastructure and specialized teacher training programs to schools in remote and underserved districts.

4. Incentivize and Showcase Best Practices: Create platforms for schools and teachers to share successful case studies and innovative methods for integrating Life Skills. Recognize and reward best practices to motivate educators and institutions.

5. Promote Collaborative Learning Pedagogies: Encourage teachers to frequently use group discussions, collaborative projects and team-based activities in the classroom. This inherently practices skills like communication, interpersonal relationships and problem-solving.

6. Introduce Student-Led Initiatives and Leadership Opportunities: Empower students by giving them responsibilities in organizing events, managing clubs or leading community projects. This fosters leadership, decision-making and a sense of agency.

7. Incorporate Formative Assessment of Life Skills: Move beyond solely assessing academic knowledge. Develop simple, non-threatening tools for formative assessment of

Life Skills such as observation, portfolios or project presentations, to provide feedback on students' holistic development.

8. Foster Strong Parent-School Partnerships: Conduct workshops for parents to help them understand the importance of Life Skills and suggest ways they can support this development at home, creating a consistent reinforcement system.

9. Establish a Robust Support System from SCERT and DIETs: The State Council of Educational Research and Training (SCERT) and District Institutes of Education and Training (DIETs) should take a proactive role in creating resource materials, monitoring implementation and providing continuous support to schools in integrating Life Skills effectively.

5.3.Educational Implications of the Study

The following educational implications of the study are as follows :

1. Need for Curriculum Rebalancing: The extreme imbalance in textbook content, with an overwhelming focus on Thinking Skills (Critical Thinking, Problem-Solving) and a severe neglect of Social and Emotional Skills (Empathy, Communication, Coping with Stress), necessitates an immediate and systematic revision of both CBSE and MBSE syllabi. Curriculum framers must ensure the equitable integration of all ten WHO core Life Skills across all subjects to align with the holistic vision of NEP 2020.

2. Revitalization of Pedagogical Practices: The heavy reliance on textbook-based, exam-oriented instruction, as reported by headmasters, must shift towards experiential and activity-based learning. Teacher training programs should focus on equipping educators with methodologies for role-playing, group discussions, project-based learning and collaborative tasks that actively develop social and emotional competencies in the classroom.

3. Systematic Integration of Activities: The analysis reveals that the 'Activity' sections in textbooks are the weakest component especially in MBSE books. Educational authorities should mandate the inclusion of structured, well-designed activities in every chapter that are

not merely procedural but are explicitly linked to practicing and internalizing specific Life Skills.

4. Enhanced Teacher Training and Capacity Building: The significant difference in Life Skills perception between CBSE and MBSE teachers and the advantage held by post-graduate teachers, highlights the critical role of professional development. Continuous, mandatory in-service training programs focused on Life Skills education, its importance and practical classroom strategies are essential for all secondary school teachers, particularly those in state boards.

5. Addressing the Socio-Emotional Learning (SEL) Gap: The finding that students have only average awareness, with significant gaps in emotional skills like coping with emotions and stress calls for the institutionalization of SEL. Schools should dedicate specific time for SEL sessions, integrate reflective practices, and provide access to counseling services to support students' mental and emotional well-being.

6. Bridging the Inter-Board Disparity: The consistently higher performance of CBSE students and teachers indicates a systemic disparity. The MBSE should learn from the CBSE's more structured approach, including better resource allocation, structured teacher training modules, and a more balanced curriculum design, to ensure equitable quality of Life Skills education across all boards in Mizoram.

7. Leveraging Extracurricular Activities More Effectively: While schools conduct co-curricular activities, they are often not explicitly connected to Life Skills development. School administrators should consciously frame these activities (e.g., social service, sports, ECO club) as deliberate opportunities to practice teamwork, leadership, empathy and responsibility, moving beyond their current supplementary status.

8. Policy-Driven Shift in Assessment Priorities: The headmasters' unanimous citation of board exam pressure as a barrier implies that assessment reforms are crucial especially at MBSE. Policymakers must explore ways to incorporate the assessment of Life Skills (e.g.,

through project work, portfolios, or behavioral observations) into the overall evaluation system to signal their importance and reduce the overemphasis on rote-learning.

9. Contextual and Resource-Specific Support for Schools: The challenges faced by state board schools such as limited ICT infrastructure and resources, require targeted interventions. The government and educational departments should provide specific grants, resources, and context-specific teaching-learning materials to help these schools implement activity-based and interactive Life Skills education effectively.

10. Fostering School-Community Partnerships for Holistic Development: The finding that students from joint families showed better Life Skills awareness suggests the value of a supportive ecosystem. Schools should actively engage parents and the community through workshops and collaborative events to create a consistent environment that reinforces the Life Skills being taught in school, thereby extending learning beyond the classroom.

5.4. Suggestions for Further Study

The following points have been suggested for further study :

- (i) **Longitudinal Studies on Life Skills Progression:** Track students over multiple years to examine how Life Skills evolve from secondary school into higher education and early career stages, including their influence on social, emotional and academic outcomes.
- (ii) **Experimental Evaluation of Intervention Programs:** Design and test targeted interventions, such as structured Life Skills curricula, teacher training workshops, or digital learning modules to measure their effectiveness in enhancing specific competencies.
- (iii) **Qualitative Investigation of Classroom Practices:** Conduct in-depth case studies or ethnographic research to observe teaching strategies, student engagement and challenges in integrating Life Skills in real classroom settings.

- (iv) **Impact of Co-curricular Engagement:** Explore the relationship between participation in activities like sports, debates, or clubs and the development of particular Life Skills, providing guidance for program design.
- (v) **Comparative Studies Across Regions or Boards:** Examine Life Skills education in other states or educational boards to identify best practices, contextual differences and innovative approaches applicable to Mizoram.
- (vi) **Role of School Leadership and Environment:** Investigate how school culture, leadership and teacher-student interactions influence the implementation and effectiveness of Life Skills education.
- (vii) **Parental and Community Involvement:** Assess the influence of parents and local communities on reinforcing Life Skills, including awareness, attitudes and supportive practices that shape adolescent development.
- (viii) **Integration with Digital Competencies:** Examine the development of Life Skills related to digital literacy, online safety, critical evaluation of information and responsible technology use, reflecting the growing role of digital environments in students' lives.

APPENDIX – A

QUESTIONNAIRE

ANNEXURE – I (A)

STUDENTS' LIFE SKILLS AWARENESS SCALE (SLSAS)

Name : _____

Gender : Male ☐ Female ☐ Other ☐

Class : Class – IX ☐ Class – X ☐

Locality : Urban ☐ Rural ☐

Board : MBSE ☐ CBSE ☐

Family : Nuclear ☐ Joint ☐

Management : Private ☐ Govt ☐ Aided ☐

Economical Status of Family : High income ☐ Middle income ☐ Low income ☐

Parental Education : Below class – 10 ☐ Class – 12 ☐ Graduate ☐ Postgraduate ☐

Previous Class Grade : Class 8

Class 9

A+	
A	
B+	
B	
C+	
C	

A+	
A	
B+	
B	
C+	
C	

Instructions

On the following pages, you will find 43 statements related to Students' Awareness on Life Skills. Please read each statements carefully and indicate your response based on your present view. Place a mark in the box corresponding to one of the five given options

: Strongly disagree, Disagree, Neutral, Agree and Strongly agree which best reflects your opinion. Kindly ensure that you respond to all 43 statements. Some statements are given below; please put a tick mark in the box that is applicable to your response.

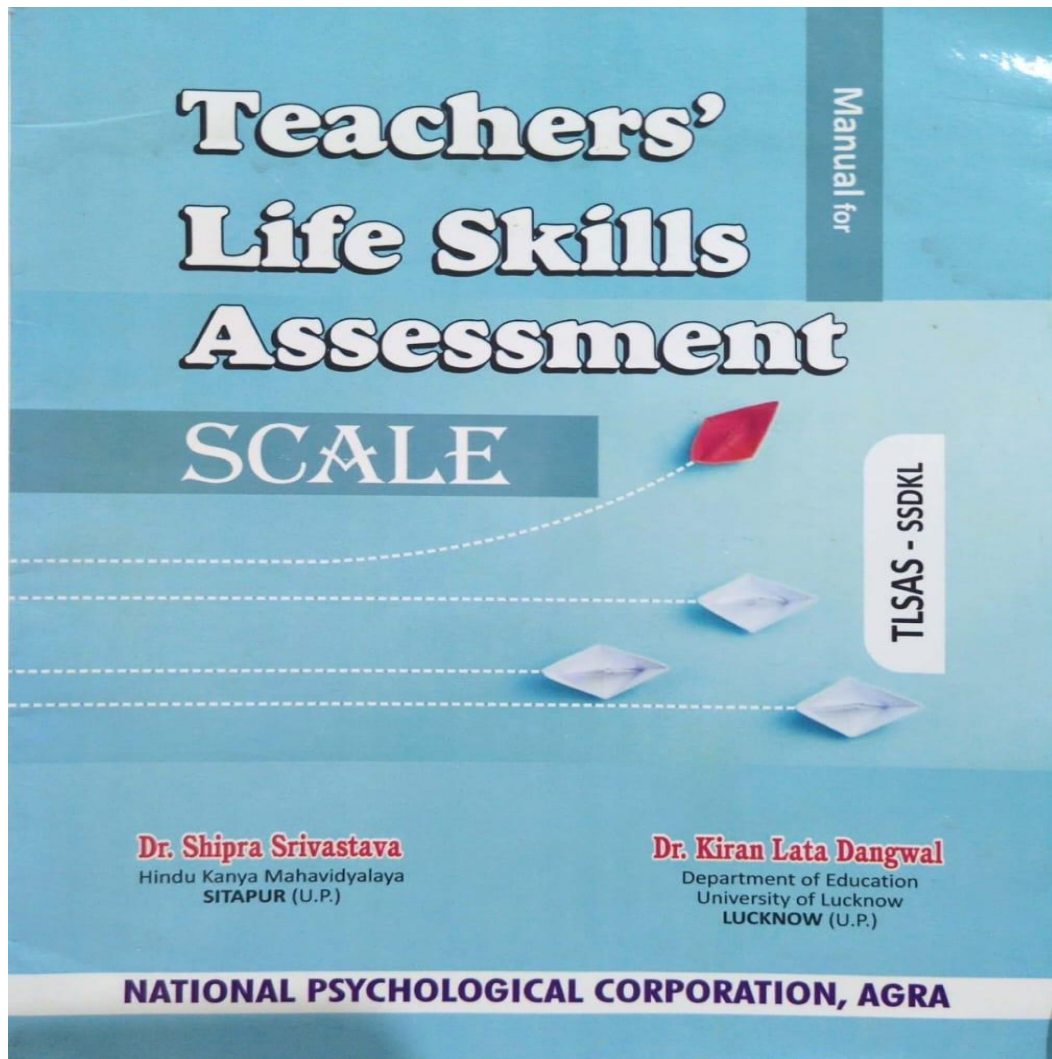
Qs.no	Statement	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree
1.	I often accept things without questioning.					
2.	I can analyze information well.					
3.	I struggle to think critically.*					
4.	I can evaluate different options.					
5.	I can identify the root cause of problems.					
6.	I don't like to try new approaches.*					
7.	I like to explore different possibilities.					
8.	I am open to trying new things.					
9.	I can imagine different scenarios.					
10.	I find it hard to solve problems.*					
11.	I can implement solutions effectively.					
12.	I can collaborate with others to solve problems.					
13.	I can not resolve conflict when problematic situation happen.					
14.	I understand my strengths and weaknesses.					
15.	I know what motivates me.					
16.	I am aware of my personal values.					

17.	I can identify my needs.					
18.	I struggle to understand my feelings.*					
19.	I weigh the pros and cons before deciding.					
20.	I consider the consequences of my decisions.					
21.	I can stand by my decisions.					
22.	I can make informed decisions.					
23.	I can cooperate with others.					
24.	I prefer to work alone.					
25.	I discuss my concern and problems with others.					
26.	I believe that good relationship can change one's life.					
27.	I am confidence to talk to a stranger.					
28.	I can easily express myself towards others.					
29.	I often miscommunicate my ideas.					
30.	I hesitate to join a group who are talking together.*					
31.	I am not jealous of others who is better than me.					
32.	I always try to avoid difficult situation. *					
33.	I find it hard to express myself. *					
34.	I can control my emotions.					

35.	I utilize relaxation methods to manage my stress.					
36.	I become angry easily when I'm stress.					
37.	I feel like no one cares about me. *					
38.	I feel relief when I share my problems.					
39.	I listen to others with care.					
40.	I can put myself in someone else's shoes.					
41.	I respect others' feelings.					
42.	I don't care about others' problems.*					
43.	I always act towards other people as I would like to be treated.					

APPENDIX – B
QUESTIONNAIRE

ANNEXURE – II (A)
TEACHERS' LIFE SKILLS ASSESSMENT SCALE





T.M. Regd. No. 564838
Copyright Regd. No. G.A. 73256/2005 Dt. 13.5.05

Dr. Shipra Srivastava (Sitapur)
Dr. Kiran Lata Dangwal (Lucknow)

Consumable Booklet
of
TLAS-SSDKL
(English Version)

Kindly fill in the following entries :

Date

Name

Date of Birth Gender : Male ☐ Female ☐

Qualification : Academic Professional

Designation Teaching Experience Years

Institution Place

Area : Metro ☐ Urban ☐ Rural ☐ Type of Institute : Govt. ☐ Aided ☐ Private ☐

Level of Teaching : Primary ☐ Upper Primary ☐ Secondary ☐ Sr. Secondary ☐

INSTRUCTIONS

On the following pages 54 statements regarding work and Life Skills of teachers have been given. Kindly read each statement carefully and decide your response on your present thinking & style and put a ☒ mark in cell of anyone of the given Five alternative responses, viz., **Always, Frequently, Sometimes, Rarely** and **Never**, which describes you the best.

Kindly do reply to all the 54 statements.

Be rest assured, your responses will be kept confidential.

Scoring Table

	Raw Score						z-Score	Grade	Level of Life Skills
Page	3	4	5	6	7	8			
Score									
Total Score									

Estd. 1971

www.npcindia.com

☎:(0562) 2601080

NATIONAL PSYCHOLOGICAL CORPORATION

UG-1, Nirmal Heights, Near Mental Hospital, Agra-282 007

Sr. No.	STATEMENTS	Always	Frequently	Sometimes	Rarely	Never	SCORE
1.	I actively use a lot of facial expression while communication.	☐	☐	☐	☐	☐	☐
2.	If I share my ideas with fellow teachers, someone could steal and take all credit.	☐	☐	☐	☐	☐	☐
3.	I use internet to share self generated digital content.	☐	☐	☐	☐	☐	☐
4.	I think of all possible outcomes before I take any action.	☐	☐	☐	☐	☐	☐
5.	I develop my plan of action after gathering information from various sources.	☐	☐	☐	☐	☐	☐
6.	I use gestures to illustrate while explaining in the classroom.	☐	☐	☐	☐	☐	☐
7.	I can identify those students who are pretending to listening in classroom.	☐	☐	☐	☐	☐	☐
8.	I rephrase the answers given by students to make sure that all others have understood.	☐	☐	☐	☐	☐	☐
9.	I encourage my students to participate and share their knowledge, ideas and views globally through online discussions.	☐	☐	☐	☐	☐	☐
10.	When I don't have enough resources to implement any idea, I drop it.	☐	☐	☐	☐	☐	☐

Total Score Page 3

Sr. No.	STATEMENTS	Always	Frequently	Sometimes	Rarely	Never	SCORE
11.	To find the appropriate interpretations, I look for clues in my surroundings.	☐	☐	☐	☐	☐	☐
12.	I identify the key aspect of a problem and use facts and relevant evidences to develop potentially valid solution.	☐	☐	☐	☐	☐	☐
13.	I encourage my students to break down the problem into small parts and work on one part at a time.	☐	☐	☐	☐	☐	☐
14.	I communicate using online communication tools- e-mail, instant messaging, video calling and chats etc.	☐	☐	☐	☐	☐	☐
15.	I use self-made-presentations to make my teaching effective.	☐	☐	☐	☐	☐	☐
16.	Working as a team member help me to perform better.	☐	☐	☐	☐	☐	☐
17.	I explore new methods and strategies to explain concepts in the classroom.	☐	☐	☐	☐	☐	☐
18.	Ideas given by students in the classroom are only to be heard not to accept or implement.	☐	☐	☐	☐	☐	☐
19.	I critically analyze the search results obtained on the internet for their reliability, validity etc.	☐	☐	☐	☐	☐	☐
Total Score Page 4							☐

Sr. No.	STATEMENTS	Always	Frequently	Sometimes	Rarely	Never	SCORE
20.	I face difficulty to edit or modify digital contents.	☐	☐	☐	☐	☐	
21.	I take suggestions and ideas from others when I have any new task to do.	☐	☐	☐	☐	☐	
22.	I use variations in my tone of voice to seek attention of my students.	☐	☐	☐	☐	☐	
23.	I participate in webinars and online conferences.	☐	☐	☐	☐	☐	
24.	I gather information from a wide variety of sources to keep myself update and to enhance the quality of my work.	☐	☐	☐	☐	☐	
25.	I encourage my students to do brainstorming on a given topic.	☐	☐	☐	☐	☐	
26.	Rather than acting impulsively I think of various ways to solve any issue.	☐	☐	☐	☐	☐	
27.	I feel that the use of multimedia content in classroom teaching distracts attention of students.	☐	☐	☐	☐	☐	
28.	If my group members point out my mistake; I point out the same to others before correcting mine.	☐	☐	☐	☐	☐	
29.	I use self-reflection regarding my contribution after collaborative activities.	☐	☐	☐	☐	☐	
Total Score Page 5							

Sr. No.	STATEMENTS	Always	Frequently	Sometimes	Rarely	Never	SCORE
30.	I reframe the things to let my students see them from a different perspectives.	☐	☐	☐	☐	☐	
31.	I strive to make interdisciplinary connections and patterns while teaching.	☐	☐	☐	☐	☐	
32.	Internet helps me in planning and taking decisions in my area of interest.	☐	☐	☐	☐	☐	
33.	I do not visit more than two pages of internet search result.	☐	☐	☐	☐	☐	
34.	I interrupt other people to say what I want to say before I forget it.	☐	☐	☐	☐	☐	
35.	I do not like to show and express my sensitivity towards the feelings of students.	☐	☐	☐	☐	☐	
36.	I design and produce digital learning resources by using internet.	☐	☐	☐	☐	☐	
37.	I refer e-books and reviews on the internet to assist me in teaching learning process.	☐	☐	☐	☐	☐	
38.	I can justify my views and opinions on any issue.	☐	☐	☐	☐	☐	
39.	I tell jokes and stories while communicating in classroom.	☐	☐	☐	☐	☐	
Total Score Page 6							

Sr. No.	STATEMENTS	Always	Frequently	Sometimes	Rarely	Never	SCORE
---------	------------	--------	------------	-----------	--------	-------	-------

40. I share my creative ideas with others on the Internet and seek their feedback. ☐ ☐ ☐ ☐ ☐ ☐
41. I hesitate to go online to have discussion with experts to enhance my knowledge. ☐ ☐ ☐ ☐ ☐ ☐
42. I investigate how things are working even when there are no problems at present. ☐ ☐ ☐ ☐ ☐ ☐
43. I consider all the risk factors associated with a choice before taking action. ☐ ☐ ☐ ☐ ☐ ☐
44. I apply/incorporate digital presentation/techniques to make my lectures effective, interesting and easy to understand. ☐ ☐ ☐ ☐ ☐ ☐
45. I feel that use of lecture method is the only way to explain any concept to students. ☐ ☐ ☐ ☐ ☐ ☐
46. I look for diverse perspectives on educational issues from a global audience while working online. ☐ ☐ ☐ ☐ ☐ ☐
47. People ask me to speak slowly because my speed of talking is too fast. ☐ ☐ ☐ ☐ ☐ ☐

Total Score Page 7

Sr. No.	STATEMENTS	Always	Frequently	Sometimes	Rarely	Never	SCORE
48.	I encourage my students to participate in collaborative activities.	☐	☐	☐	☐	☐	
49.	I keep my mind open to different ideas when I have to take any decision.	☐	☐	☐	☐	☐	
50.	I consider the support and efforts of others; even when I have not asked for the same.	☐	☐	☐	☐	☐	
51.	I innovate different methods of student evaluation.	☐	☐	☐	☐	☐	
52.	I take too much time to select the appropriate information when I get huge amount of information on internet.	☐	☐	☐	☐	☐	
53.	I am unable to talk without screaming and yelling when I'm angry.	☐	☐	☐	☐	☐	
54.	I help my fellow teachers with their work when needed.	☐	☐	☐	☐	☐	

Total Score Page 8

APPENDIX – C

SEMI – STRUCTURED INTERVIEW SCHEDULE

Kindly fill in the following entries:

Name

Gender : Male ☐ Female ☐

Qualification

Institution

Type Of Institute : Govt. ☐ Aided ☐ Private ☐

Teaching Experience

Locality : Rural ☐ Urban ☐

INTERVIEW SCHEDULE FOR HEAD – MASTER

1. Are you aware of Life Skills education? Yes/No

2. Which key Life Skills components do you think are the most important for the students' holistic development?

.....

3. How do teachers incorporate life skills education into their regular teaching methods?

.....

4. How do you promote life skills education beyond the classroom, such as through extracurricular activities, sports, or school events?

.....

5. Do any of your teacher attended awareness program regarding Life Skills education?

.....

BIBLIOGRAPHY

- Abdi, M., Davoudi, R. (2015). Investigating the Relationship between Life Skills and Academic Achievement of High School Students. *Journal of Applied Environmental and Biological Sciences*. Vol. 5(3), 47-51.
- ABOBO, F & ORODHO, J.A.,(2014). Life Skills Education in Kenya: An Assessment of the Level of Preparedness of Teachers and School Managers in Implementing Life Skills Education in Trans-Nzoia District, Kenya, *IOSR Journal Of Humanities and Social Science (IOSR-JHSS)*, Volume 19, Issue 9, Ver. II, PP 32-44
- Almosawi, F.R., Rashk, N.A. (2025). Analyzing the Effects of Learning English for Iraq on Developing Students' Life Skills. *Multidisciplinary International Journal (MIJ)*, Vol. 8, No. 3.
- Amer, M.B., Singha, K.G. (2023). The Life Skills Included in Secondary Stage English Language Textbooks in Jordan. *International Research Journal of Educational Research*, Vol. 14(2) pp. 1-11.
- Ashraf, T., Abiodullah, M., Iqbal, M.Z. (2021). Analysis of Social Responsibility Skills with Reference to Life Skills in Secondary School Curriculum. *Pakistan Social Sciences Review*, Vol. 5, No. 4 pp: 368-381.
- Azizkhani, A., Niknam, M., Ahadi, H. (2022). A Content Analysis Exploring Life Skills Components in Elementary School Social Studies Textbooks. *Iranian Evolutionary and Educational Psychology Journal*, Vol. 4, No. 4, 32-41.
- Bano, S., Deebe, F. (2025). A Gender Based Analysis of Life Skills among Prospective Teachers in Universities of Pakistan, *Journal for Social Science*, Vol.3, No. 3.
- Chetri, K (2020). Life Skills Education for Adolescents: It's Needs and Strategies - Palarch's *Journal of Archaeology of Egypt/Egyptology*, Vol.17(7).

- Cipriano, C. et.al. (2023). The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based SEL interventions, *Child Development*, Vol.94:1181–1204.
- Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, Vol. 12, 297 - 298.
- Darlington-Bernard A,et.al.(2023). Defining Life Skills in health promotion at school: A Scoping Review, *Front Public Health*, Vol.7;11:1296609.
- Defitrika, F., Mahmudah,F.N.(2021). Development Of Life Skills Education As Character Building, *International Journal of Educational Management and Innovation*, Vol.2, No.1, pp. 116-135.
- DeJaeghere, J., & Baxter, A. (2016). Reframing Life Skills: From an Individualistic to a Relational Transformative Approach, *Life skills education for youth: Critical perspectives and cross-national case studies*, UC Berkeley Library-supported Open Access Books, ISBN 978-3-030-85214-6, Page- 73.
- Devi, J., Anuradha & Shweta (2024). A Study of the Life Skill of Higher Secondary School Student in Relation to Self-Concept. *International Journal of Indian Psychology*, Vol.12(3), 3322-3328.
- Durlak JA, et.al.(2011). The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. *Child Dev*, Vol.82(1):405-32.
- EKİZ, M.A (2025). Analysis of Life Skills of Students Studying in Hatay Mustafa Kemal University. *Asian Journal of Education and Social Studies*, 2025 - Volume 51, Issue 8] ,pp 49-61.
- Ering, M. et.al. (2024). Assessment and Enhancement of Life Skills among Higher Secondary Students in Tirap District of Arunachal Pradesh: A Gender Perspective, *International Journal of Teaching, Learning and Education (IJTLE)*, Vol-3, Issue-4.

- Giang, T. T., Khanh, M. Q., Hong, N. T. T., & Hoa, V. L. (2022). Life skills education capacity structure of teacher in the context of current education innovation. *International Journal of Social Sciences*, Vol.5(2), 105-109.
- Giang, T. T., Khanh, M. Q., Hong, N. T. T., & Hoa, V. L. (2022). Designing skills for life skills education plan of pedagogical students in Vietnam. *International Research Journal of Management, IT and Social Sciences*, 9(4), 421-429.
- Gür, Y., Karaoğlu, M.F. (2022). Comparison of the effect of life skills education and acceptance and commitment on happiness and responsibility of physical education students. *African Educational Research Journal*, Special Issue 10(1), pp. S7-S14.
- Harikrishnan, U., Rajeev M. M., Sailo, G.L., Kaimal, A., Shanthi B. S. (2023). Life Skills Education For School Children In Aizawl, Mizoram: A Pre-Post Design, *Education and Society*. Vol-47, Issue-1, No.-8.
- Hvalby, L. et al. (2024). Life Skills in Compulsory Education: A Systematic Scoping Review, *Education Sciences*, Vol.14(10), 1112.
- Isaken, A.R. et al. (2025). Life skills education as a balancing act: Preparing students to handle life challenges in upper secondary English and social science classrooms, *Teaching and Teacher Education* Volume 159.
- Itute, N. et al. (2023). The Influence of Training of Teachers in Life Skills Education on Implementation of Life Skills Curriculum in Public Secondary Schools In Kenya, *The International Journal of Engineering and Science (IJES)*, Volume 12, Issue 9, Pages PP 08-13
- Indu, P., Vidhukumar, K. (2020). Research designs – an overview, *Kerala Journal of Psychiatry*; Vol. 32(1).
- Karamadi, M.A., Aminabhavi, V.A. (2015). Impact of Medium of Instruction on Life Skills of school students, *Indian Journal of Mental Health*; Vol. 2 (3).

- Kaur, J & Kaur, M.(2022). A Life Skills Intervention for Enhancing Psychological Well-Being of Secondary School Students, MIER Journal of Educational Studies Trends & Practices, Vol. 12(2), 285–300.
- Kirchhoff, E., & Keller, R. (2021). Age-specific life skills education in school: A systematic review, Front. Educ, Vol. 6.
- Lalbiakfeli, L.K., Vemula, M. (2024). Unraveling the Layers: A Comprehensive Analysis of MBSE Secondary Science Curriculum with a Focus on Life Skills Integration. Library Progress International, Vol.44(3),2942-2955.
- Lenzen, B.; Buyck, Y.;Bouvier, A. (2023). Teaching Life Skills in Physical Education within Different Teaching Traditions: A Narrative Review, Educ. Sci., Vol. 13, 605.
- Madhavi, R.L. (2023). Life Skills Education In Secondary Schools Of Vadodara City," Working papers 2023-46-03, Voice of Research.
- Mahanta, P et.al.(2024). A Study on Life Skills among Adolescents Attending Government Schools. Indian Journal of Psychiatric Nursing, Vol. 21(1);p 17-21.
- Malathi, S.(2022). Awareness on Life Skill Education for Employment Opportunity among Prospective Teachers. Shanlax International Journal of Arts, Science and Humanities, Vol. 10, No.S1.
- Masri, A.A., Smadi, M., Aqel, A., Hamed, W. (2016). The Inclusion of Life Skills in English Textbooks in Jordan. Journal of Education and Practice, Vol.7, No.16.
- Mehta N, Kapoor H.(2024) Validating Tools to Measure Life Skills Among Adolescents in India. Journal of Indian Association for Child and Adolescent Mental Health. 2024; Vol. 20(3):221-228.
- Mishra, P & Pandey, C.(2025). Life Skills Of Senior Secondary Level Students, International Journal of Creative Research Thoughts (IJCRT), Volume 13, Issue 4 April 2025 | ISSN: 2320-2882.

- Monika & Minakshi. (2024). The Impact of Life Skills and Education Adjustment Among Students: A Study of Central Part of India, *Research Inventy: International Journal of Engineering And Science*, Vol.14, Issue 4, PP 37-42.
- Monika & Ronak. (2022). A Comparative Study Of Life Skills Among Secondary School Students Of Private And Govt. Schools In Sonipat District. *EPRA International Journal of Research and Development (IJRD)*, Volume: 7, Issue: 8.
- Mufarokah, A., Bafadal, I., Imron, A., Supriyanto, A., Jainurakhma, J. (2022). The Life Skills Education Policy Model in *Pesantren*-Based Schools. *Journal of Positive School Psychology*, Vol.6, No.4.
- Munir, S. et.al.(2024). Life skills development in students at secondary level in Punjab: a need analysis, *Journal of Humanities, Social and Management Sciences (JHSMS)*, 5(2), 182–194.
- Munsi, K & Guha, D.(2014). Status of Life Skill Education in Teacher Education Curriculum of SAARC Countries: A Comparative Evaluation, *Journal of Education & Social Policy* Vol. 1 No. 1.
- Murthy, V (2016), Issues, Problems and Possibilities of Life Skills Education for School Going Adolescents, *International Journal of Indian Psychology*, Volume 3, Issue 3, No. 11.
- Nanaware, B.R., L. Palanethra. (2017). Effectiveness of Life Skills Education Program among CBSE and State Board Students: An Exploratory Study. *International Journal of Research in Social Sciences* Vol. 7, Issue 11.
- Nasheeda, A.et.al. (2018). A narrative systematic review of life skills education: effectiveness, research gaps and priorities, *International Journal of adolescence and Youth*, Vol. 24, No. 3, 362–379.

- Nayak, P., Panigrahi, S., Biswakalyani, S. (2023). Life Skills Awareness Of Student Teachers Of Secondary Level In Relation To Gender, Stream Of Study And Exposure To Course, International Journal of Creative Research Thoughts (IJCRT), Volume 11, Issue 12.
- Neelam., Thakur, M. (2023). A Study Of Life Skills Of Adolescents With Respect To Gender, Type Of School And Residential Background, Scholarly Research Journal for Interdisciplinary Studies, Vol- 12/79.
- Nguyen, H.L., Tran, T.T., Pham, Q.A. (2023). Life Skills Education for Junior High School Pupils in Ho Chi Minh City, Journal for Re Attach Therapy and Developmental Diversities, Vol. 12, No. 2, pp. 285 – 300.
- P.Sudha, T, Mythili. (2022). A study on life skills among high school adolescents studying in English and Tamil medium in government school, International Journal of Health Sciences, Vol. 6, No. S4.
- Pandey, D.P., Pandey, Mayank. (2024). Assessment of life skills among secondary school students of district Nainital, Uttarakhand India. International Journal of Literacy and Education; Vol 4(1): 165-169.
- Pathan, N. & Amin, J.N. (2023). Comparative Analysis of Life Skills Education: Global Perspectives and Challenges in India, The International Journal of Indian Psychology, Volume 11, Issue 3.
- Paul, P.(2023). Impact and Roll of Life Skills Education at Secondary Education Level. Polyphony: Bankura University Journal of Education, Vol. 01, Issue 01, pp. 127-139
- Penthala, T. (2018). Life Skills Education Among Secondary School Students Of Jayashankar Bhupalapally District, IJARIIE, Vol-4 Issue-3.
- Prajapati, R., Sharma, B., Sharma, D. (2017). Significance of Life Skills Education. Contemporary Issues in Education Research – First Quarter 2017, Volume 10.

- Praveen, R. (2022). Alternative and mainstream education in Kerala: A comparative study based on life skills of students. *International Journal of Health Sciences*, Vol.6(S1), 13422–13428.
- Ravindranath, S., Jacob, A., Talreja, V., & Bhat, S. (2022). Effectiveness of Life Skills Intervention for Children From Disadvantaged Backgrounds: Insights From 4-year Longitudinal Study, *Journal of Education*, Vol.204(1), 166-173.
- S, Anitha., Saxena, L. (2024). The Life Skills Education Program's Effectiveness among students from CBSE and State Boards: An Exploratory Study. *JASRAE*, vol. 21, no. 7, pp. 255–262.
- Sanjay, D. et.al., (2022). The Status of Life Skills Education in Secondary Schools – An Evaluative Study, *International Interdisciplinary Research Journal*, Volume-12, Issue-01.
- Shah, N.H., Nazir, N., Shaheen, S. (2022). Analysis Of English Textbook With Reference To Life Skills’ Content Of 10th Grade, *PJER*, Vol 5, Issue 2.
- Sharma, K. (2021). Inculcation and Promotion of Values Through Life Skills Education at the School Level. *MIER Journal of Educational Studies Trends and Practices*, Vol.11(1(a) SPL), 93–101.
- Sharma, N.et.al. (2021). A Survey On Life Skill Challenges, Development And Implementation In School Education System, *International Journal of Aquatic Science*, Vol 12, Issue 01.
- Sheenu, G.S. (2025). Life Skills Awareness among Teachers in the Schools of Kerala, *International Scientific Journal of Engineering and Management*, Vol. 04(06):1-9.
- S. Jessey., J. Jayachithra. (2026). Development of Life Skills Among High School English Learners: A Survey Study, *Asian Journal of Education and Social Studies*, Vol. 52, Issue. 3, pp:411-420.

- Srikala, B., Kishore, K.K.V.(2010). Empowering adolescents with life skills education in schools – School mental health program: Does it work?, *Indian J Psychiatry*, Vol. 52(4):344-9.
- Sukumar G.M et.al. (2022). Effectiveness and Factors Associated with Improved Life Skill Levels of Participants of a Large-Scale Youth-Focused Life Skills Training and Counselling Services Program (LSTCP): Evidence from India. *Behav Sci (Basel)*; Vol.12(6):191.
- Surendran, G. et.al.(2023). Effect of life skills education on socio-emotional functioning of adolescents in urban Puducherry, India: A mixed-methods study, *Journal of Education and Health Promotion*, Vol.12:250.
- Suresh, V & Subramonium, V.(2015). Life Skills Education in School Setting, *International Journal of English Language, Literature and Humanities*, Volume III, Issue V.
- Tagat, A, et.al.,(2025). The impact of life skills education on socio-emotional development and school-related outcomes among adolescents in India, *BMC Public Health*, Vol. 25:759.
- Tagat, A., Balaji, A. & Kapoor, H.(2025). The impact of life skills education on socio-emotional development and school-related outcomes among adolescents in India. *BMC Public Health* 25, 759 (2025).
- Taylor RD, et.al. (2017). Promoting Positive Youth Development Through School-Based Social and Emotional Learning Interventions: A Meta-Analysis of Follow-Up Effects. *Child Dev*, Jul; Vol.88(4):1156-1171.
- Thippeswamy V, Vishwesh K, Ali A, Lakshmana G. (2025). Life skills among school-going adolescents in South India: A gender comparison, *J Edu Health Promo*, Vol. 14:151.
- Tiwari, P. and Bajpai, A. (2020). Strategies for Inculcating Life Skills in CBSE Schools of Varanasi City. *Educational Quest: An Int. J. Edu. Appl. Soc. Sci.*, Vol.11(4): 197-204.

- Tiwari, P., et.al.(2020). Effectiveness of life skills health education program: A quasi-experimental study among school students of South India, *Journal of Education and Health Promotion*, Vol.9:336.
- Tufail, M., Ali, R., Malik, S.K. (2016). Analysis Of Textbook Of Biology For Higher Secondary Students With Reference To 21st century Life Skills, *Journal of Research in Social Sciences-JRSS*, Vol: 4 Number 2.
- Ültay, E., Akyurt, H., & Ültay, N. (2021). Descriptive content analysis in social sciences. *IBAD Journal of Social Sciences*, Vol. 10, 188-201.
- V. Sakkeer. (2026). Level of Life Skills Awareness Among Adult Learners Enrolled in Jan Shikshan Sansthan (JSS) in Madhya Pradesh, *International Journal of Creative Research Thoughts (IJCRT)*, Volume 14, Issue 1, pp.a965-a973.
- Yadav, S.L. (2025). Study of Awareness Towards Life Skill Education among Secondary-level Students, *International Journal of Emerging Research in Engineering, Science, and Management*, Vol.4,Issue1,pp.62-66.
- Yitbarek, S.et.al. (2016). Life Skills Education in Ethiopia: Afar Pastoralists' Perspectives, *Life skills education for youth: critical perspectives and cross-national case studies*, UC Berkeley Library-supported Open Access Books, ISBN 978-3-030-85214-6, Page-245

BRIEF BIO – DATA OF THE CANDIDATE

NAME : L.K Lalbiakfeli

FATHER’S NAME : Ramluahpuia

MOTHER’S NAME : Lalrindiki

ADDRESS : Tuikual North, Aizawl, Mizoram.

EMAIL : biakfeli96@gmail.com

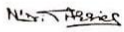
Ph.D REGISTRATION NO. & DATE : MZU/Ph.D/2117 of 06.09.2022

EDUCATIONAL QUALIFICATIONS :

Sl. No	Description	Institution	Year of Passing	Aggregate Marks %
1.	Class X	Hermon School, Dinthar, Aizawl	2013	70.6%
2.	Class XII	Govt. K.M Higher Secondary School, Dawrpui Venthari, Aizawl	2015	76.6%
3.	Graduation	Govt. Hrangbana College, Chanmari, Aizawl	2018	75.75%
4.	Post Graduation	Mizoram University, Tanhril, Aizawl	2020	74.96%
5.	NET (Education)	NTA-UGC	2022	95.15%

CERTIFICATE

 INDIAN ASSOCIATION OF LIFE SKILLS EDUCATION, CHENNAI	NIRMALA INSTITUTE OF EDUCATION, PANAJI, GOA 
10th INTERNATIONAL CONFERENCE ON LIFE SKILLS EDUCATION (ICLSE 2025)	
THEME: LIFE SKILLS INTEGRATED LEARNING AND LIVING: PATHWAYS FOR A SUSTAINABLE FUTURE	
(27TH FEBRUARY - 1ST MARCH 2025)	
ICLSE2025/.....	
CERTIFICATE	
This is to certify that Prof./Dr./Mr./Mrs./Ms. <u>L.K. Lalbiakfeli</u>	
of <u>Mizoram University</u> has	
participated in the 10th International Conference on Life Skills Education (ICLSE 2025) as	
Chairperson/Moderator/Keynote Speaker/Symposium Speaker/Panelist / Paper presenter on the topic	
<u>'Secondary Students' Perceptions of Life Skills Education: A Comprehensive Study'</u>	
 Sr. (Dr.) Delia Antao Convenor, ICLSE 2025 & Former Principal & Asso. Prof., NIE	 Ms. Rama Bhide Organising Secretary, ICLSE 2025 Secretary, IALSE
	

 XVIII World Congress of Comparative Education Societies Fostering Inclusive Ecologies of Knowledge: Education for Equitable and Sustainable Futures 22-26 July 2024, Cornell University, Ithaca, New York, USA	
CERTIFICATE OF PARTICIPATION	
Co-Conveners WORLD CONGRESS OF COMPARATIVE EDUCATION SOCIETIES UNESCO, MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY, GOVERNMENT OF INDIA UNESCO, MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY, GOVERNMENT OF INDIA UNESCO, MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY, GOVERNMENT OF INDIA	
	
Host 	
Co-Organizers  	
This is to certify that Professor/ Dr./ Mr./ Ms. <u>L.K. Lalbiakfeli and Dr. Muttu Venula</u> presented their paper entitled <u>'Analyzing Life Skills Integration in Indian Secondary Education: A Critical Study'</u> .	
 Professor N'Dri T. Assié-Lumumba, WCCES President	

PUBLICATION

Library Progress International
Vol.44 No.3, Jul-Dec 2024: P.2942-2955

Print version ISSN 0970 1052
Online version ISSN 2320 317X

Original Article

Available online at www.bpasjournals.com

Unraveling the Layers: A Comprehensive Analysis of MBSE Secondary Science Curriculum with a Focus on Life Skills Integration

¹L.K. Lalbiakfeli, ²Dr. Muttu Vemula

¹Research Scholar, Department of Education, Mizoram University

²Assistant Professor, Department of Education, Mizoram University
biakfeli96@gmail.com

How to cite this article: L.K. Lalbiakfeli, Muttu Vemula (2024) Unraveling the Layers: A Comprehensive Analysis of MBSE Secondary Science Curriculum with a Focus on Life Skills Integration. *Library Progress International*, 44(3), 2942-2955.

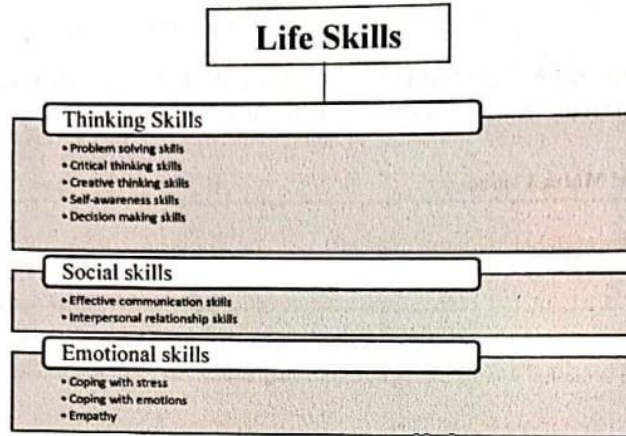
Abstract

In today's contemporary world, it has become increasingly important for educational institutions to provide students with a curriculum that not only imparts academic knowledge but also equips them with essential life skills which can be incorporated into our daily life. This article delves into a comprehensive analysis of the Mizoram Board of School Education (MBSE) Secondary Science Curriculum, with a specific focus on the integration of life skills components in the Class-IX textbook. The content analysis of the textbook is done by following the Life Skills Components proposed by the World Health Organization (WHO) which are in three domains – Thinking skills, social skills, and Emotional skills while keeping in mind the criteria of the ideal science curriculum given by NCF – 2005. From the analysis of the textbook, it is identified that Critical thinking skills are the majority in number with a percentage of 39.63%, followed by Problem-solving skills with 35.45% and Creative thinking skills with 24.91% but ignored Social Skills and Emotional Skills domain in the textbook. The science textbook employed by the Mizoram Board of School Education (MBSE) enabled the students to utilize their Critical Thinking Skills and enabled the students to understand science theoretically and meaningfully in their daily lives.

Keywords: Life skills, Secondary education, Science textbook, Curriculum, MBSE.

Introduction

Life-Skills Education as defined by the UNICEF is "an approach to behavior development or behavior modification that balances knowledge, attitude, and skills". The ability to convert information, attitudes, and beliefs into practical abilities—that is, "what to do and how to do it"—is known as life skills. The abilities that enable people to behave healthily when given the chance, opportunity, and motivation to do so are known as life skills. They are not a panacea since conduct is influenced by more than just "how to do" abilities. Life skills are, in essence, the abilities that help young people maintain their mental health and maturity while navigating the obstacles of adulthood. Most development professionals agree that life skills are frequently applied in connection to social and health-related circumstances. The term also includes education for development, livelihood, and revenue production, as well as education about consumers, the environment, and peace. To put it succinctly, life skills enable youth to take proactive measures to safeguard themselves, encourage good health, and foster pleasant social interactions. The WHO, UNESCO, UNICEF, and other international organizations list the 10 essential life skills as Empathy, Self Awareness Skills, Creative Thinking Skills, Critical Thinking Skills, Problem Solving Skills, Decision Making Skills, Effective Communication skills, Interpersonal Relationship Skills, Coping with Stress and Coping with Emotions. These skills are further divided into three dimensions – Thinking skills which consist of Problem solving skills, Creative thinking skills, Critical thinking skills, Self-awareness and Decision making skills. Social skills which comprises of Effective communication and Interpersonal relationship skills. Emotional skills which include Coping with stress, Coping with emotions and Empathy.



Problem-solving skills allow us to address issues in our lives in a positive way. Unresolved major issues might result in tension in the mind and the accompanying physical strain. Problem-solving is the process of identifying and resolving conflicts or challenges. It involves breaking down a problem into its component parts, weighing numerous strategies, and choosing the best one.

Critical thinking skills are the capacity for impartial analysis of data and experiences. Critical thinking may help us become healthier by assisting us in recognizing and assessing the factors—like media, peer pressure, and values—that influence our attitudes and actions.

Self-awareness skills entails accepting who we are—our character, our likes and dislikes, our talents and shortcomings. Being more self-aware might make it easier for us to identify times when we feel pressured or anxious. It is frequently a requirement for establishing empathy for other people as well as for successful interpersonal relationships and communication.

Decision making skills assist us in making decisions regarding our life in a positive way. There may be negative health effects from this. It can teach people how to actively pick their course of action based on a health assessment of numerous options and the expected repercussions of those decisions.

Creative thinking skills give four qualities that define an innovative manner of thinking or acting: originality (thinking of something new), flexibility (changing perspectives with ease), fluency (producing new ideas), and elaboration (building on prior ideas).

Effective communication skills that we possess the ability to communicate both orally and nonverbally in ways that are appropriate for our cultures and situations. This means being able to express needs, concerns, and opinions. It could also mean being able to ask for advice and support when required.

Interpersonal relationship skills assist us in developing healthy relationships with the individuals we engage with. This may involve the capacity to establish and sustain friendly relationships, which is essential to preserving our mental and social health. It could be required to keep up good interactions with family members, who are an important source of social support. It could also mean being able to end relationships respectfully.

Coping with stress is about recognizing the stresses in our lives, comprehending the effects they have on us, and acting appropriately to help control our stress levels. This might entail changing our physical surroundings or way of life.

Coping with emotions entails understanding how emotions affect behavior, recognizing emotions in both ourselves and others, and knowing how to react correctly to emotions. Strong feelings, such as grief or rage, can be harmful to our health if we don't handle them well.

Empathy is the capacity to picture life from another person's perspective. Our interactions with other people will be one-way if we lack empathy. Accepting someone who may be extremely different from us might be made easier with empathy. This can enhance social relations in particular when there is a range of ethnicities or cultures.

The WHO is encouraging the teaching of skills that are frequently taken for granted by advocating the education of life skills. However, there is growing recognition that a large number of youth lack the life skills needed to manage the increased demands and pressures they face as a result of shifting cultural and lifestyle norms. It doesn't seem like they receive the support they need to acquire and use life skills. It is probable that the traditional means of teaching life skills—

such as familial and cultural influences—no longer work given the factors impacting the development of young people. Among these are the effects of media exposure and the outcomes of growing up in a culturally and ethnically varied setting. In addition, the fast pace of societal change that is seen around the world causes young people's opportunities, values, and expectations to diverge greatly from those of their parents. Thus by inculcating Life Skills among the children, students who get life skills education actively participate in a dynamic teaching and learning process. To encourage this active participation, activities such as brainstorming, role-playing, games, discussions, and working in small groups and pairs are employed inside the classroom. So learning process becomes more productive when there is equilibrium between knowledge, skills, attitudes and values.

Statement of the Problem

The present research paper is an attempt to analyze the current Class – IX Science textbook prescribed by the Mizoram Board of School Education (MBSE) published by Arya Publishing Company, New Delhi.

Objective of the study

To identify Life Skills components from the class – IX Science textbook prescribed by the Mizoram Board of School Education (MBSE).

To analyze Mizoram Board of School Education (MBSE) Class – IX Science textbook by giving special reference to WHO Life Skills components.

Methodology of the study

The current study is descriptive and qualitative in character as it seeks to identify and explore Life Skills components proposed by WHO from each chapter of the Mizoram Board of School Education (MBSE) Class – IX Science textbook. The researcher collected a total of 599 items of Life Skills components from the textbook by keeping in mind on the basis of the ideal science curriculum given by NCF – 2005 while administering the content analysis.

Objective 1: Identification of Life Skills Components from MBSE Class – IX Science Textbook

IDENTIFICATION/MAPPING OF LIFE SKILLS COMPONENTS IN MBSE SCIENCE CURRICULUM GRADE – 9											
CHA PTE R No.	CHA PTE R NAM E	CRIT ICAL THI NKI NG SKIL LS	PRO BLE M- SOL VIN G SKIL LS	CREA TIVE THIN KING SKILL S	SELF - AWA REN ESS SKIL LS	DECI SION MAKI NG SKIL LS	INTER PERSO NAL RELA TIONS HIP SKILL S	COMM UNICA TION SKILL S	EMP ATH Y	COPI NG WITH STRE SS	COPI NG WITH EMO TION S
1	Moti on	6	38	11	0	0	0	0	0	0	0
2	Force and Laws of Moti on	18	29	7	0	0	0	0	0	0	0
3	Gravi tation and Float ation	20	23	9	0	0	0	0	0	0	0
4	Work and Energ y	10	38	6	0	0	0	0	0	0	0

Darha Deeba

5	Sound	10	16	6	0	0	0	0	0	0	0
6	Matter in our Surroundings	12	3	7	0	0	0	0	0	0	0
7	Is Matter Around us Pure	9	5	16	0	0	0	0	0	0	0
8	Atoms and Molecules	11	24	9	0	0	0	0	0	0	0
9	Structure of Atom	9	9	6	0	0	0	0	0	0	0
10	The Fundamental Unit of Life	10	0	5	0	0	0	0	0	0	0
11	Tissues	13	3	8	0	0	0	0	0	0	0
12	Diversity in Living Organism	14	4	18	0	0	0	0	0	0	0
13	Why do we fall Ill	35	6	19	0	0	0	0	0	0	0
14	Natural Resources	23	8	9	0	0	0	0	0	0	0
15	Improvement in Food Resources	32	6	19	0	0	0	0	0	0	0

TOTAL	232	212	155	0	0	0	0	0	0	0
-------	-----	-----	-----	---	---	---	---	---	---	---

From the identification/mapping of Life Skills components to the textbook that the Mizoram Board of School Education (MBSE) recommended for science class IX, it completely ignored the thinking skills domain components of self-awareness skills and decision-making skills, giving priority to critical thinking skills, creative thinking skills, and problem-solving skills. The social and emotional skills domains, which are essential for assisting students in enhancing their social skills, interacting with peers, leading sustainable lives, and developing their decision-making skills, are absent from the textbook.

Objective 2 : Analysis of the textbook

Mizoram Board of School Education (MBSE) Class-IX science textbook for secondary level is a theoretical textbook which consist of scientific practical and activity correlated with life skills components given by World Health Organisation (WHO). The fifteen (15) chapters in this textbook cover the following topics: motion, force and laws of motion, gravitation and floatation, work and energy, sound, matter in our surroundings, is matter around us pure, atoms and molecules, atom structure, the basic building block of life, tissues, diversity in living organisms, the causes of illness, natural resources, and improvements in food resources. Analysis of the textbook is administered by considering the following three domains :

Dimensions given by WHO		
Thinking Skills	Social Skills	Emotional Skills
Critical thinking skills	Effective Communication skills	Coping with stress
Creative thinking skills	Inter-personal relationship skills	Coping with emotions
Problem solving skills		Empathy
Decision making skills		
Self-awareness skills		

CHAPTER – I : Motion

In this chapter, the students learn about what is distance, displacement, motion with its type, speed and its different types and other different concepts which can assist the students to think more about some physical properties of science and its applications in our daily life. The concept explanation is clear from the beginning and adding further information box in the chapter can add new concept and knowledge to the students while reading it from the different Life Skills components initiated. The textual questions are too lengthy in some sections but its paper quality is good enough to last for a year to be used by students. This chapter does not cover life skills components in the concept explanation but most of the Life Skills components are identified in In-text box and textual questions provided.

Around 69.09% of Problem solving skills, 20% of Creative thinking skills and only 10.9% of Critical thinking skills is found to be huge in number while analyzing the chapter but Self-awareness skills and Decision making skills which are part of thinking skills domain is not found in the chapter. Besides, Social skills and Emotional skills domains is totally neglected in the chapter which plays an important role in developing confidence and emotional clarity among the students so that they can deal with mental conflict that occur in their life.

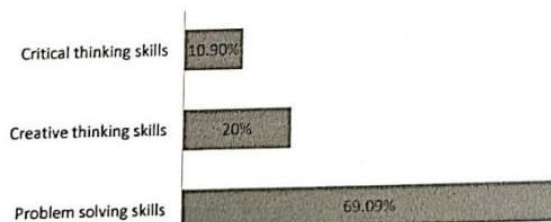


Fig 2. Percentage of Life Skills Components in chapter -1

CHAPTER – 2 : Force and Laws of Motion

This chapter gives a great emphasis to different principles of physical properties and its applications in varied ways of life. It teaches the students what is force and its significance, types of motions and its exertion on external properties. The languages and vocabulary used in this chapter is simple and can be easily grasps up accordingly by the students. Besides, the examples used in the explanation of concept are simple and adding figures, pictures makes the chapter more clearly and understandable for the student with the help of different Life Skills components inculcated. In this chapter, Life Skills Components are identified in the concept explanations of the chapter but the number of components identified are not satisfactory as they are insufficient in number. Majority of the Life Skills Components are identified in In-text box and textual questions provided in the chapter. In the present chapter, around 53.7% of Problem solving skills, 33.3% of Critical thinking skills and only 12.9% of Creative thinking skills under Thinking skills domain are present in this unit but Self-awareness skills and Decision making skills are absent while analyzing the chapter. Moreover, other Life Skills Domains such as Social skills and Emotional skills are lacking from this chapter which plays a great role in developing the students interpersonal relationship, building great communication with peers and solving emotional problems in life and inside the classroom.

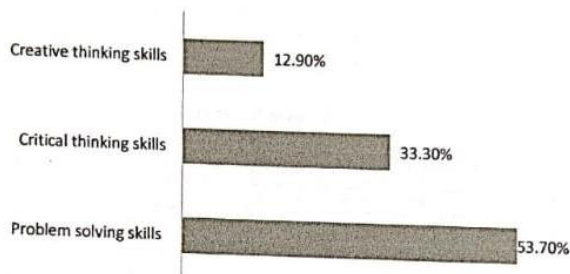


Fig 3. Percentage of Life Skills Components in chapter -2

CHAPTER – 3 : Gravitation and Floatation

In this unit, the textbook enlightened the students with various gravitational principles with detailed explanations and examples, forces and its implications on a surface of body in motion. Concept explanation of the chapter is clear and detailed from the starting of the unit and giving In-text box after the end of each concept for testing student's understanding of the meaning is good which can help the pupils to be clear more about the chapter studied with the help of different Life Skills components initiated.

From this unit, Life Skills Components are found at the explanation of concept but majority of the Life Skills components are present at the In-text box section and textual questions provided by the textbook in which Critical thinking skills and Problem solving skills from Thinking Skills Domain plays a dominant role in this chapter with 44.23% for Problem solving skills, 38.46% for Critical thinking skills and for Creative thinking skills only 17.3% are identified from the chapter leaving behind Self-awareness skills and Decision making skills. Apart from this, Social Skills Domain and Emotional Skills Domain are totally neglected in the present chapter as these skills are crucial in shaping the pupils thinking so that students can combat certain psychological problems and maladjustment in their daily life.

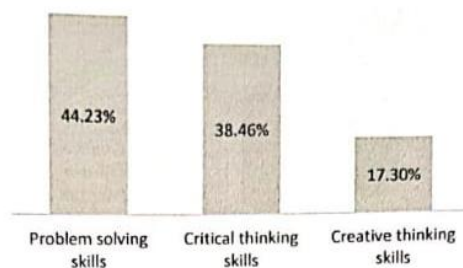


Fig. 4 Percentage of Life Skills Components in chapter - 3

CHAPTER – 4 : Work and Energy

In this chapter, the textbook enlightened the students with different concepts like work and its type of quantity, mechanical energy with varied types, physical quantities and energy which can be applied in our day to day life. The textbook provide a detailed explanation in each pages by adding clear examples, diagrams and tables for further understanding about the concept taught in the classroom from the different Life Skills components initiated. Moreover, number of Life Skills Components is not satisfactory in this chapter and large number of the Life Skills Components are identified in example questions given after each concept explanation, In – text box question and textual questions provided at the end of the chapter.

From this unit, around 70 % of Problem solving skills, 18.5% of Critical thinking skills and 11.1% of Creative thinking skills which belong to Thinking skills domain are identified but leaving behind Decision making skills and Self Awareness skills which is also part of Thinking Skills domain. Besides this, Social skills and Emotional Skills is totally in absent which plays a significant role in building positive relationship and learning to curb mental illness among the pupils in order to face the

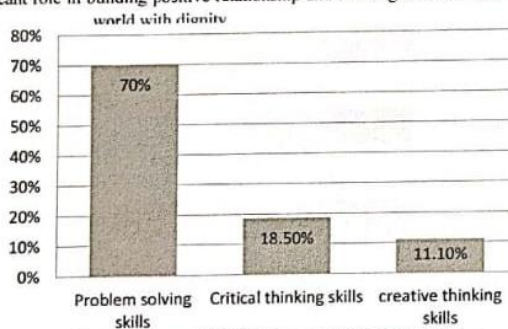


Fig 5. Percentage of Life Skills Components in Chapter - 4

CHAPTER- 5 : Sound

From the analysis of the chapter, it is clearly identified that the unit is explain systematically and concept explanation is simple, detailed and can be easily grasp up by the students. A small number of classroom activity is inculcated in the pages, if more scientific activity be added students will understanding more about the concept and can applied those activities beyond their classroom from the Life Skills activities inculcated. Moreover, Life Skills Components are found in the concept explanation but not large in number. Majority of the Components are identified in the example questions provided at end of each concept, in-text box question and textual questions given at the end of the chapter.

From this chapter, around 50% of Problem solving skills, 31% of Critical thinking skills and 18% of Creative thinking skills are identified from the chapter which is from Thinking skills domain but Decision making skills and Self Awareness skills are absent here. Beyond this, Social skills and Emotional skills are totally neglected as these domains can boost the students to build strong emotional foundations within themselves, family and peers and become a mentally healthy person.

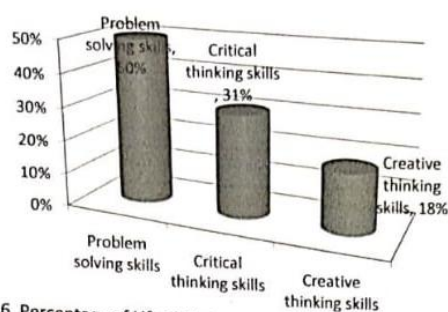


Fig 6. Percentage of Life Skills Components from chapter-5

CHAPTER – 6 : Matter in our Surrounding

In this chapter, the textbook imbibe by starting off with the concept of matter and explain its implication by adding activity for further understanding of the meaning, come up with different types of particles and atmosphere around us. Textual questions provided are strong and detailed enough to test the students understanding and learning of the chapter taught within the four walls of room and further information box tag along with the pages strengthened the students with advance knowledge systematically from the different Life Skills components initiated. This chapter contains less number of Life Skills Components in the explanation and emphasized more in Thinking Skills domain by derelicting Social skills and Emotional skills. Mostly, within thinking skills domain around 54% of Critical thinking skills, 31% of Creative thinking skills and 14% of Problem solving skills are identified while examining the chapter. This chapter neglected Social skills and Emotional skills which are an important skills for improving the students wellbeing and their ways of developing awareness about t

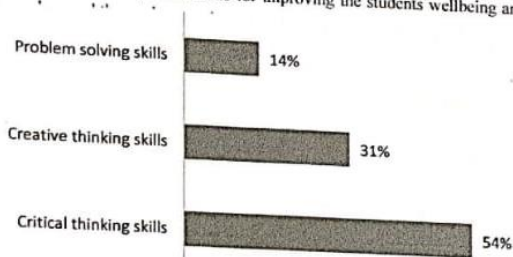


Fig 7. Percentage of Life Skills Components in Chapter- 6

CHAPTER – 7 : Is Matter around us Pure

In this unit, the chapter expresses the concept of mixture and its type, solutions with its physical changes and characteristics, components of physical properties and solutions are explain in in-depth which are easy to understand by the students. After each concept explanation, there is an activity that students may complete in the classroom or at home to help them comprehend the material better. In addition, the concept explanations included with tables, graphs, and examples help students better understand the many life skills components they are being taught.

Although the idea description of the Life Skills Components in this chapter is good, the statistics are not. Many elements were discernible in the text box, the examples given at the conclusion of each concept description, and the textual questions. This lesson emphasized more with Thinking skills domain in which Problem solving skills, Critical thinking skills and Creative thinking skills are stressed; but Decision making skills and Self-awareness skills are absent. Moreover, social skills and emotional skills are totally neglected in the chapter which are an important form in solving emotional problems, social constraints and academic struggle among the students. Thus, around 53% of Creative thinking skills, 30% of Critical thinking skills and 17% of Problem solving skills are identified from the chapter.

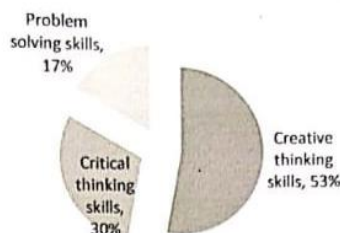


Fig 8. Percentage of Life Skills Components in chapter - 7

CHAPTER – 8 : Atoms and Molecules

In this chapter, the textbook encourage the students to be clear with the concept of law of masses, atomic theory with its applications in different elements, molecules with its classification and its chemical calculations by including varied examples for better understanding of the law of chemical combination. The chapter opens with a clear description of the topic, and the textual questions that follow are sufficient to gauge how well students have understood the lesson from the many Life Skills components that were used in the classroom. In addition, including additional information boxes in the pages might help pupils' thinking abilities grow, which is to their advantage. This chapter completely lacks the activity column, which is quite useful in helping students bridge their critical thinking skills by working through some of the equations on their own to have a deeper knowledge of the material.

Furthermore, upon thorough page analysis, less Life Skills Components are discovered. Moreover, the Life Skills components are limited to In-text box questions, examples, and textual questions, which are given insufficiently. The in-depth analysis of this chapter highlights about 55% of Problem Solving Skills, 25% of Critical Thinking Skills, and 20% of Creative Thinking Skills, leaving behind Self Awareness and Decision Making Skills, which are within the Thinking Skills domain. The Social skills and Emotional skill domain, which are critical to a child's mental development, are also overlooked in this chapter.

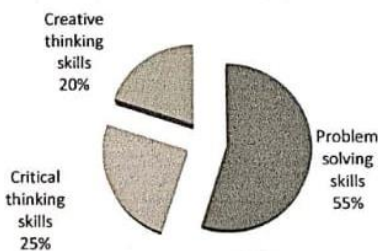


Fig 9. Percentage of Life Skills Components in chapter-8

CHAPTER – 9 : Structure of Atom

From the analysis of the chapter, it is identified that the textbook emphasized with Rutherford's model of atom and its structure, by adding figures, diagrams and tables to give precise clarification on the concept. The chapter begins with a comprehensive explanation of the topic along with a full scientific experiment tag and a brief summary that the learner may readily comprehend from the many Life Skills components introduced. This chapter lacks a classroom exercise that would enable students to apply what they have learned to improve their own understanding. This is unfortunate because the textbook focused more on providing a detailed explanation of the material than on examining the students' capacity for independent problem-solving.

This chapter stressed with Thinking skills domain by inculcating Problem solving skills, Critical thinking skills and Creative thinking skills but Self awareness skills and Decision making skills is neglected here. Beyond this, Social skills and Emotional skills are absent from this chapter which plays a crucial role in developing the child's capacity to

understand the emotional state of others, regulate their own feelings and learning to get along with their peers. This chapter contains around 38% of Problem solving skills, 38% of Critical thinking skills and 25% of Creative thinking skills.

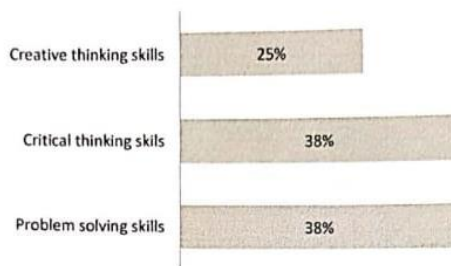


Fig 10. Percentage of Life Skills Components in chapter - 9

CHAPTER – 10 : The Fundamental Unit of Life

In this chapter, the textbook emphasize by starting with Robert Hooke's findings and give a clear concept about cells and its function, different types of cell and its structure by inculcating detailed figures, diagrams and tables for easy understanding for the pupils. The chapter is introduced with a concise explanation supported by theory and a boxed summary of additional material from the many Life Skills components that are taught. The languages used in the textbook make it simple to read and informative, however the amount of activity work that students must complete to fully comprehend each chapter is pitiful and needs improvement.

Moreover, from the exploration of the chapter it is identified that Life Skills Components is less in number from the explanation of the concept. The components could be identified from the In – text box and textual questions provided. From this unit, Thinking Skills domains which comprises of Critical thinking skills 67% and Creative thinking skills 33% are identified but surprisingly in this chapter Problem solving skills are absent on analyzing it. This chapter totally neglected Social Skills and Emotional Skills which play a crucial role in encouraging the students to develop the ability to balance their own personality, to be contented with themselves and most importantly to have a resilient heart.

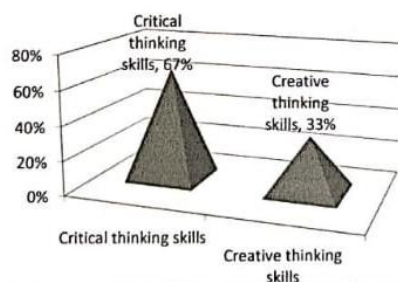


Fig 11. Percentage of Life Skills Components in chapter-10

CHAPTER – 11 : Tissues

From the analysis of the chapter, it is identified that the unit explain the concept of tissues with a clear statement from the beginning by adding with different types of tissues and its function, its features and significance on a living organisms. Through the addition of additional information boxes, figures, and tables to the pages along with many Life Skills components, it provided the students with a thorough and educational explanation. It is not satisfactory that there is no

activity work for students to perform in this chapter as it is part of their subsequent learning. In addition, there are fewer Life Skills Components described in the idea description; they can only be found in the in-text box and textual questions. From this chapter, Thinking skills domain which consisted of Problem solving skills 13%, Critical thinking skills 54% and Creative thinking skills 33% could be identified but Social skills and Emotional skills are entirely neglected which are an important skills for the students to develop perseverance, improving self knowledge and making wise decisions within themselves.

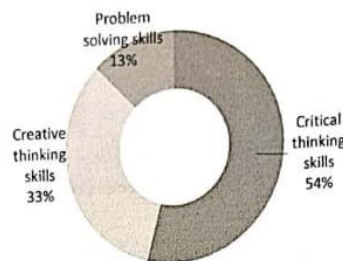


Fig 12. Percentage of Life Skills Components in chapter - 11

CHAPTER – 12 : Diversity in Living Organisms

In this unit, the chapter starts off with the classification of organisms given by Aristotle and continues with the drawbacks and importance of classification for biologists. With the aid of several Life Skills components introduced in the chapter, it provides a clear explanation of the categorization of creatures by providing figures, tables, and diagrams for simple comprehension of the bullet points mentioned in the pages. Examples of usage are straightforward, understandable, and uncomplicated for pupils. However, regrettably, the concept explanation does not include Life Skills Components; instead, they are only mentioned in the in-text box and the accompanying textual questions. In this chapter, around 50% of Creative thinking skills, 38.8% of Critical thinking skills and 11.1% of Problem solving skills which belongs to Thinking skills domains are identified from the analysis but leaving behind Social skills and Emotional skills which is playing an important role in developing the students emotional intelligence in their everyday life.

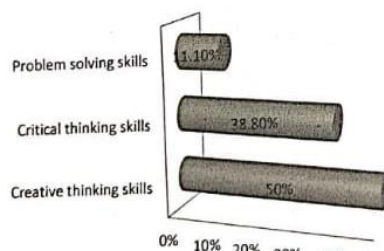


Fig 13. Percentage of Life Skills Components in chapter -12

CHAPTER – 13 : Why do we Fall Ill

From this unit, the chapter highlighted with the concept of distinction between healthy and unhealthy, disease and its causes, transmission of diseases; its treatment and ways to prevent, awareness program and measures taken by the Government to eradicate some viral diseases among its people. This chapter is an informative yet detailed study which is up-to date for adding up the knowledge of the pupils from the different Life Skills components incorporated. Classroom activity and Further Information box given in the pages are beneficial for the students systematic learning. This chapter consist of 31.6% of Creative thinking skills, 58.3% of Critical thinking skills and 10% of Problem solving skills which

is not adequate in numbers. Besides, this chapter exclude Social Skills and Emotional skills domains which play a crucial role among the students by building a positive bond within peer, oversee everyday tasks and conquering obstacles.

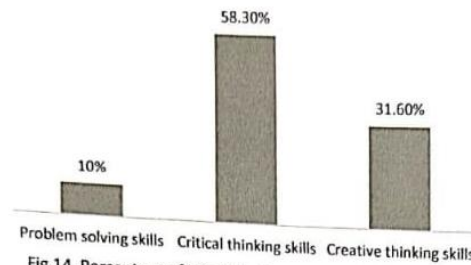


Fig 14. Percentage of Life Skills Components in chapter - 13

CHAPTER – 14 : Natural Resources

From the analysis of the chapter, it is identified that the unit emphasized with the importance of natural resources for living things, expressing the crucial points about protecting our environment and what measures to be taken in order to prevent or control pollution around us. The concept is explained clearly right away through the use of straightforward examples, figures, diagrams, and tables. Additionally, there are plenty of classroom activities that students can complete to help them understand the material and gain practical experience with the various Life Skills components that are offered. The textbook also includes a box of additional material that might help students learn more and broaden their horizons. Sadly, there are not enough Life Skills Components to help kids' minds grow and become more sharp when faced with a challenging assignment.

In this chapter, Life Skills Components are identified at the concept explanation, in-text box questions and textual questions given at the end of the chapter. Around 20% of Problem solving skills, 22.5% of Creative thinking skills and 57.5% of Critical thinking skills which are under Thinking Skills domains are present in this chapter but lagging behind Social skills and Emotional skills domains which are important for the pupils cognitive growth, social development and forming meaningful relationship.

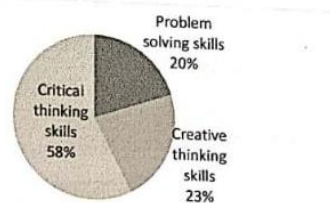


Fig 15. Percentage of Life Skills Components in chapter - 14

CHAPTER – 15 : Improvement in Food Resources

In this chapter, the unit enlightened the students with the introduction of agricultural practices, how to develop production for the farmers, management and limitations of crops and animal husbandry for improving the output in agriculture with a clear concept explanation from the start of the chapter. The textbook provide detail explanation in each pages by adding figures, diagrams and tables for the students better understanding of the concept but the number of Life Skills components identified are not satisfactory and distribution of different Life Skills components are not uniform. Besides, adding further information box is very beneficial for the pupils additional knowledge apart from the concept explanation.

From this chapter, around 10.5% of Problem solving skills, 56.1% of Critical thinking skills and 33.3% of Creative thinking skills which are from Thinking Skills domains are identified from the chapter but neglecting Social Skills and Emotional Skills which is helpful for the systematic development of the pupils learning.

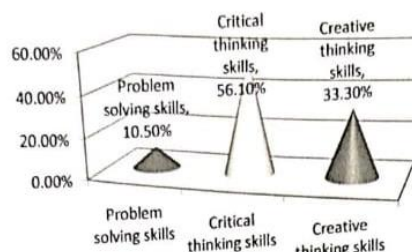


Fig 16. Percentage of Life Skills Components in chapter - 15

CONCLUSION:

From the present study, it is examined that the present Mizoram Board of School Education (MBSE) textbook given more importance to few Life Skills components such as Thinking skills domains with Critical thinking skills of 39.63%, Problem solving skills of 35.45% and Creative thinking skills of 24.91% from the overall analysis of each chapter but the textbook leave behind Self-awareness skills and Decision making skills which belongs to Thinking Skills domains too. The textbook totally neglected Social skills and Emotional skills which can assist the pupils to developed positive attitude towards themselves, their peers and the people around them. Besides, successful social and emotional skills inculcate in the students can help the learner to have a healthy practices within their family, developed a high self-esteem, improving their academic performance, learning to work together, combatting behavioral problems such as anxiety, depression and psychological disorder. Moreover, the textbook stressed more with theoretical aspects rather than practical and scientific activity; and the textual questions tag along in each chapter is not scientific enough to know the pupils aptitude towards science subject. The textbook contain less number of Life Skills Components especially in the concept explanation in each chapter and learners are given less opportunities to experience in the field of science experiments with the help of different Life skills components. Thus, if students are given more opportunity to explore the beauty of science by inculcating more Life Skills components through scientific activity and experimental work related to their daily life; it will have an immense progress in the future. The science textbook employed by the Mizoram Board of School Education (MBSE) allowed pupils to utilize their critical thinking skills and to comprehend science in a theoretical and practical sense by understanding life skills.

RECOMMENDATION:

After critically analyzing the textbook and drawing conclusions, we can conclude that the class-IX science textbook recommended by the Mizoram Board of School Education (MBSE) completely ignored the thinking skills domains components of self-awareness skills and decision-making skills, but prioritized to critical thinking skills, creative thinking skills, and problem-solving skills. This textbook lacks the social skills and emotional skills domain, which are crucial for helping students improve their self-efficacy, communicate with others, live sustainably, and advance in their decision-making abilities. Thus, it is recommended that :

1. The science textbook for class – IX prescribed by MBSE need systematic updating by highlighting each concept explanation using diagrams, photos, and tables; classroom exercises that students do to gain a deeper knowledge of ideas from various Life Skills components should be incorporated into majority of the explanation.
2. By introducing specific chapters or sections focusing on self-awareness and decision-making skills as they are absent in the textbook. These skills are crucial for holistic development and should be integrated into various scientific contexts to help students understand their importance in everyday life.
3. The textbook should emphasized on practical and scientific activities throughout the textbook. Increase the number of practical exercises and applications that let students use their academic understanding in practical settings. This method will help pupils become more creative and proficient at solving problems while also improving their comprehension.

4. Revising the textual questions and activities from each chapter to understand that they are more scientific and reflective of the depth of understanding required in science subjects. By incorporating questions that encourage critical thinking, analysis, and application rather than simple recall should be emphasized.
5. A broader range of Life Skills components should be incorporated throughout the textbook. Explicitly linking these components with scientific concepts and experiments to show students how life skills are interconnected with scientific learning. This could include teamwork, communication, resilience, and adaptability.
6. By developing chapters or activities that explicitly teach and reinforce social and emotional skills as these skills are important for fostering positive connection, managing emotions effectively, and promoting overall well-being among students. Thus, incorporating scenarios and discussions related to peer interaction, empathy, and emotional management within scientific contexts is crucial.

Reference:

- Tufail, M et.al(2016). Analysis of Textbook of Biology for Higher Secondary Students with Reference to 21st century Life Skills. *Journal of Research in Social Sciences-JRSS* June, 2016 Vol: 4 Number 2.ISSN: (E) 2306-112X (P) 2305-6533.
- Central Board of School Education Teachers Manual on Life Skills Classes IX – X (1st ed), (2010). The Secretary, Central Board of Secondary Education, Shiksha Kendra, 2, Community Centre, Preet Vihar, Delhi - 110092.
- Life Skills Education For Children And Adolescents In Schools Introduction and Guidelines to Facilitate the Development and Implementation of Life Skills Program (1994). Programme On Mental Health World Health Organization Geneva 1997. WHO/MNH/PSF/93.7A.Rev.2.
- Vasty.et.al., (2023), Evaluation of Class IX MBSE Science Textbook with Reference to NCF 2005, *International Journal of Scientific Development and Research (IJS DR)*, Volume 8 Issue 4, ISSN: 2455-2631.



EMPOWERING INDIVIDUALS FOR FUTURE SUCCESS THROUGH LIFE SKILLS AND VOCATIONAL TRAINING IN INDIA

L.K. Lalbiakfeli , Dr. Muttu Vemula 

¹ Research Scholar, Department of Education, Mizoram University, India

² Assistance Professor, Department of Education, Mizoram University, India



ABSTRACT

In the rapidly changing global environment of today, education has expanded beyond its historical purview of teaching fundamental academic disciplines. It has developed into a dynamic platform that needs to give people a broad range of skills, including both life and career training, in order to prepare them for success in an uncertain future. This paradigm change is particularly important in a nation like India, where young make up the majority of the population. Comprehensive training programs that cover both personal development and practical skills are desperately needed in order to take advantage of this demographic advantage and close the skill gap. This article examines the critical importance of vocational training and life skills in India and how they can support the country's overall development and prosperity. It also explains how important it is for training programs and educational institutions to recognize and give priority to the integration of life skills in order to ensure that students are fully equipped for success in the fast-paced world of today.

Keywords: Empowering, Life skills, Vocational Training

Corresponding Author

L.K. Lalbiakfeli, biakfeli96@gmail.com

DOI

10.29121/shodhkosh.v5.i7.2024.2075

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Copyright: © 2024 The Author(s). This work is licensed under a Creative Commons Attribution 4.0 International License.

With the license CC-BY, authors retain the copyright, allowing anyone to download, reuse, re-print, modify, distribute, and/or copy their contribution. The work must be properly attributed to its author.



1. INTRODUCTION

Due to complexities of society and the evolving nature of employment, the education system must equip young people to tackle difficult problems and unpredictability in the present and the future (OECD, 2018). Furthermore, because competency needs are unknown, unclear and ever-changing, future workplaces will demand the ability to solve complicated challenges (Harties, 2018; Schwendimann et al., 2018). Accordingly, the particular requirements of the profession and what are known as 21st century skills are crucial components of the technical vocational education and training (TVET) (Hamalainen et al., 2018). The term '21st century skills' is broad and ambiguous, and it is defined by several frameworks (Lamb et al., 2017). Consequently, a number of phrases are also often employed including soft skills, transferable skills, transversal skills, and key competencies. To thrive in today's environment, people appear to agree on

How to cite this article (APA): Lalbiakfeli, L. K. and Vemula, M. (2024). Empowering Individuals for Future Success through Life Skills and Vocational Training in India. *ShodhKosh: Journal of Visual and Performing Arts*, 5(7), 154–159. doi: 10.29121/shodhkosh.v5.i7.2024.2075

154

the necessity of competence and life skills including creativity, problem solving, critical thinking, self-directed learning, metacognition, teamwork, persistence and communication.

India is a country where a large proportion of its workforce is made up of young people, whose population is expanding. Unfortunately, a large number of people lack the abilities needed to find steady work and advance the economy of the country. The provision of vital competencies that are highly valued in the labor market via life skills and vocational training is crucial in closing this gap. A skill is the capacity to do an action as well as a result of practice and learning. The ability to learn is what enables somebody to perform a task more efficiently and effectively. Skills are aptitudes that make a task easier to do and finish. The aim of TVET is to produce a competent and semi-skilled workforce, whereby life and career are balance with the necessary skills to get employment and survive in the face of 21st century problems. Concerns about skill gaps between employers; requirements and graduates' or job seekers' talents have been voiced repeatedly worldwide (Husain et al., 2014; Robinson, 2000; Zaharim et al., 2009). Institutions including the family, the preschool, the primary school, the elementary school, the high school, the upper secondary school, the college and the university are places where people study and develop skills. These organizations are essential in giving everyone access to a wide venue for learning and skills development. Every person has gained access to a variety of skills as a result of these interventions, including life skills, sports skills, leisure skills, literary skills, language skills, functional skills and vocational abilities. There are many talents in this actual world, but only a select number are primarily employed by people; these are the life skills. Among them are life skills, which are the aptitudes or talents that each person acquires by their own experience in order to deal with societal realities. In general, life skills are defined as a combination of behavior attitudes, beliefs, and knowledge that enable one to accomplish goals and know how to do tasks (Nair, 2010). In a society that is so knowledge-driven, skill development and vocational training are essential for providing people with the tools they need to advance and successfully contribute to economic growth (Economic Commission, 2012). NEP 2020 is a major step forward in the nation's efforts to create a knowledge society.

2. REVIEW OF RELATED LITERATURE

Syamsi, I. (2019) conducted a study on 'Preparation for Vocational Life-Skills Education Model Implementation for School Dropouts' and concluded that it is crucial to implement ongoing Life-Skills Education initiatives in order to enhance the business skills of adolescents who have left school. This can be achieved by actively managing and enhancing the qualifications of the tutors, as well as delivering vocational skills that align with their specific requirements. Additionally, it is essential to further examine the impact of educational interventions on pedagogical content knowledge in interdisciplinary areas.

Rui, Y (2021) conducted a study on 'Incorporating Life Skills Education in Vocational Training: Toward Empowerment-Based Skills Advancement for Young Women Migrant Workers in China' and the research findings show that life skills education can greatly benefit young women migrant workers. This type of education allows for hands-on learning and self-reflection, helping these workers better understand themselves and become agents of change. The study suggests that life skills education should be implemented to empower these workers on personal, interpersonal, and behavioral levels, ultimately promoting their overall growth. The implications of this research call for more services and research in this area, as well as the development of policies and programs aimed at helping young women migrants acquire life skills to navigate the challenges they face when moving from rural to urban areas.

Swank, M.J., Huber, P (2013) write an article on Employment Preparation and Life Skill Development Initiatives for High School Students with Emotional and Behavioral Disabilities and concluded that this article introduces a highly encouraging program for effectively assisting students with ESE/EBD. Nevertheless, it is crucial to conduct further research in order to scrutinize the schemes proposed in this article and assess their potential in enabling students to transform into productive citizens.

Goel, P.V (2013) conducted a study on Technical and Vocational Education and Training (TVET) System/ In India For Sustainable Development and concluded that India has a large technical workforce, but it's not proportionate to its population. Emphasis on general education over vocational education has led to unemployment among educated individuals. Recognizing this, there's a growing focus on vocational education. There's also an imbalance with more engineers than diploma holders, leading to a need for more polytechnics and ITIs. Various ministries are promoting vocational courses, ensuring quality. The XIth Plan has allocated more funds for vocational education, with a focus on marginalized groups, including women, aiming to improve the lives of the Indian population.

Kalra, P.K., Daya, S (2019) conducted a study on Vocational Education and Skill Development in Higher Education: A Systems Approach and concluded that it is essential to ensure that interventions aimed at integrating skills and vocational training do not compromise the cultural and values-based aspects of a community or region. This chapter highlights the Dayalbagh Educational Institute's skilling model, which has been successfully practiced for over nine decades and extended to various regions of the country. This model seamlessly integrates skill development with conventional education, starting from the pre-nursery years.

Objective of the study

- 1) To study the importance of life skills and vocational training among individual.
- 2) To understand how life skills and vocational training complement each other.

Methodology of the study

Method of study: This study will be qualitative and descriptive in nature with the aim of bridging the gap between theoretical understanding and practical application in life skills and vocational education.

Source of data: The investigator chose to collect data from multiple sources. The researcher utilized a large amount of relevant literature to obtain the data and secondary data sources were used. Data sources included journal articles, newspaper articles, books, online portal articles, research articles, and other data sources.

3. IMPORTANCE OF LIFE SKILLS AND VOCATIONAL TRAINING AMONG INDIVIDUAL

Life skills are the abilities, knowledge, and competencies that individuals need to deal effectively with the challenges and demands of everyday life. They encompass a broad range of skills that go beyond academic or technical expertise, focusing on personal and social development. These skills are fundamental for personal growth, success in various life domains, and overall well-being. The World Health Organization (WHO) and UNICEF emphasize the importance of life skills in personal development and well-being. Life skills are a set of competencies that enable individuals to navigate the challenges and experiences of daily life effectively. These skills contribute to mental and social stability and can help individuals address a wide range of issues. **Communication Skills:** Effective communication is the cornerstone of successful relationships, both personal and professional. It encompasses skills such as active listening, clear expression, non-verbal communication, and conflict resolution. Developing these skills can improve interactions, reduce misunderstandings, and enhance collaboration.

Decision-Making and Problem-Solving Skills: Life is rife with decisions and challenges. Decision-making skills involve assessing options and making choices based on careful analysis and consideration of consequences. Problem-solving skills, on the other hand, help individuals approach issues methodically and find solutions.

Self-Reflection and Awareness Exercises: Self-reflection encourages individuals to examine their thoughts, feelings, and behaviors. Journaling, mindfulness, and meditation are effective techniques for increasing self-awareness and emotional intelligence.

Goal-Setting and Planning Strategies: Setting goals and creating action plans are essential for decision-making, time management, and achievement. Teaching individuals how to set SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals can guide them toward success.

Debates and Discussions: Engaging in debates and discussions encourages critical thinking, effective communication, and the exchange of ideas. These activities can enhance decision-making and communication skills.

Time Management Tools and Techniques: Tools such as calendars, to-do lists, and time management apps can help individuals organize their time efficiently. Workshops on time management strategies can provide valuable insights and skills.

Team-Building Activities: Team-building exercises promote collaboration, problem-solving, and communication skills. They are particularly effective in a group or organizational context.

Public Speaking and Presentation Workshops: Public speaking and presentation skills are crucial for effective communication. Workshops in this area can help individuals become confident and articulate speakers.

Stress Management and Emotional Intelligence Workshops: Teaching stress management techniques and emotional intelligence skills, such as recognizing and regulating emotions, can improve overall well-being.

Vocational training, often referred to as vocational education or career and technical education, is a specialized form of education that equips individuals with the skills and knowledge necessary to excel in specific trades or professions. Unlike traditional academic education, which focuses on a broad range of subjects and theoretical knowledge, vocational training is designed to prepare individuals for specific careers or jobs. Vocational training can be defined as a form of education that focuses on teaching practical skills and knowledge needed for specific trades, professions, or industries. It aims to prepare individuals for the workforce, equipping them with the tools to excel in their chosen career paths. Vocational training programs are typically hands-on and offer a more direct route to employment by concentrating on the practical aspects of a job.

Different Types of Vocational Training Programs

Vocational training programs come in various forms, each catering to different career paths and skill sets. Here are some of the most common types of vocational training programs:

Trade Schools and Apprenticeships : Trade schools, also known as vocational schools or technical colleges, are institutions that focus on providing education and training in specific trades or occupations. These programs are typically shorter in duration than traditional four-year degrees and emphasize hands-on learning. Apprenticeships, on the other hand, are a combination of on-the-job training and classroom instruction. Apprentices work alongside experienced professionals in their chosen field, gaining practical experience and knowledge while earning a wage.

Certification and Licensure Programs : Many vocations require professionals to obtain certifications or licenses to practice legally. Certification and licensure programs provide the necessary education and training to pass the required exams and meet the regulatory standards of a specific profession.

On-the-Job Training and Internships : On-the-job training (OJT) and internships are forms of vocational training that involve learning while working in a real job environment. OJT is commonly used in industries where hands-on experience is essential. Individuals receive training and supervision from experienced colleagues or mentors, gaining practical skills and knowledge on the job.

4. HOW LIFE SKILLS COMPLEMENT VOCATIONAL TRAINING

Life skills and vocational training are two essential components that can greatly complement each other, providing a well-rounded foundation for personal and professional development.

The complementarity between life skills and vocational training can be seen in various ways:

Holistic Development: Vocational training primarily focuses on providing specific technical skills and knowledge related to a particular trade or industry. While these skills are essential, they are only one aspect of a person's development. Life skills, on the other hand, address the broader spectrum of personal and interpersonal competencies. By integrating life skills into vocational training, individuals can undergo holistic development, becoming well-rounded professionals who are not only technically proficient but also adept at handling the various challenges and demands of the workplace and life in general.

Adaptability: Life skills such as problem-solving, critical thinking, and adaptability are invaluable in the ever-changing work environment. Vocational training equips individuals with the specific skills required for a particular job, but it is the ability to adapt and find solutions in unforeseen situations that can set individuals apart. For instance, a nurse with vocational training may be well-versed in administering medication, but they also need problem-solving skills to handle a sudden change in a patient's condition.

Effective Communication: The importance of effective communication in the workplace cannot be overstated. Vocational training often teaches the technical aspects of a job, but it doesn't always emphasize the ability to communicate clearly, both verbally and in writing. Incorporating communication skills in vocational training ensures that professionals can convey their ideas, concerns, and instructions clearly and collaborate effectively with colleagues and clients.

Interpersonal Skills: Working in a professional setting typically involves collaboration and interaction with colleagues, supervisors, and customers. Interpersonal skills like empathy, active listening, and conflict resolution are crucial for maintaining positive relationships in the workplace. Vocational training programs that include these skills can produce professionals who not only excel in their tasks but also contribute to a harmonious and productive work environment.

TURNITIN REPORT

(CORE AREAS)

Page 1 of 349 - Cover Page

Submission IDtrn:old:::10015:128033897

CORE_090832.docx

My Files

My Files

Mizoram University

Document Details

Submission ID

trn:old:::10015:128033897

Submission Date

Feb 11, 2026, 9:13 PM GMT+5:30

Download Date

Feb 11, 2026, 9:27 PM GMT+5:30

File Name

CORE_090832.docx

File Size

581.8 KB

342 Pages

82,223 Words

474,651 Characters

Page 1 of 349 - Cover Page

Submission IDtrn:old:::10015:128033897

Page 2 of 349 - Integrity Overview

Submission IDtrn:old:::10015:128033897

3% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

Bibliography

Quoted Text

Cited Text

Small Matches (less than 14 words)

Match Groups

136 Not Cited or Quoted 3%

Matches with neither in-text citation nor quotation marks

0 Missing Quotations 0%

Matches that are still very similar to source material

0 Missing Citation 0%

Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%

Matches with in-text citation present, but no quotation marks

Top Sources

2%

Internet sources

0%

Publications

1%

Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

486

TURNITIN REPORT

(NON-CORE AREAS)

NON CORE_090913.docx

 My Files
 My Files
 Mizoram University

Document Details

Submission ID
trn:old::10015:128033296

Submission Date
Feb 11, 2026, 9:39 PM GMT+5:30

Download Date
Feb 12, 2026, 10:33 AM GMT+5:30

File Name
NON CORE_090913.docx

File Size
110.2 KB

105 Pages
30,462 Words
188,466 Characters

3% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Quoted Text
- Cited Text
- Small Matches (less than 14 words)

Match Groups

-  58 Not Cited or Quoted 3%
Matches with neither in-text citation nor quotation marks
-  0 Missing Quotations 0%
Matches that are still very similar to source material
-  0 Missing Citation 0%
Matches that have quotation marks, but no in-text citation
-  0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

- 3%  Internet sources
- 1%  Publications
- 1%  Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

APPENDIX – D

ANNEXURE – I

PLAGIARISM CERTIFICATE

MIZORAM UNIVERSITY (A Central University)

Ph. D Thesis Certificate on Plagiarism Check

Name of Research Scholar/Student	L.K Lalbiakfeli	
Ph.D. registration Number	MZU/Ph.D./2117 of 06.09.2022	
Title of Ph.D. Thesis	Exploring the Life Skills Components in the Secondary School Syllabus: An Analytical Study	
Name & Institutional Address of the Supervisor	Dr. Muttu Vemula, Department of Education, Mizoram University, Aizawl, Tanhril-796004	
Name of the Department and School	Department of Education, School of Education	
Date of submission	16.02.2026	
Date of plagiarism check	12.02.2026	
Name of the software used	TURNITIN	
Percentage of similarity detected by the TURNITIN software	Core Areas	3 %
	Non-Core areas	3 %
Percentage of similarity permissible under MZU regulation	Core Areas	A common knowledge or coincidental terms and /or up to fourteen (14) consecutive words, if the option is available in the software
	Non-Core areas	Up to 10 %

I hereby declare/certify that the Ph.D. Thesis submitted by me is complete in all respect, as per the guidelines of Mizoram University (MZU) for this purpose. I also certify that Thesis (soft copy and print version) has been checked for plagiarism using **TURNITIN** similarity check software. Copy of the report generated by the **TURNITIN** software is also enclosed.

Place:

Date:

(Name & Signature of the Scholar) :

Name & Signature of the Supervisor :

with seal

Name & Signature of the DRC Chairperson/Head :

with seal

APPENDIX – E

ANNEXURE – II

PLAGIARISM VERIFICATION CERTIFICATE

This is to certify that the plagiarism check has been performed for Ph.D. Thesis ‘Exploring the Life Skills Components in the Secondary School Syllabus : An Analytical Study’ submitted by **Ms. L.K Lalbiakfeli**, under the Supervision of Dr. Muttu Vemula, Department of Education, School of Education, Mizoram University. The check performed by the Scholar is found correct/adheres to MZU regulations and authentic software **Turnitin** has been used for the similarity check.

Name, Signature & Seal of the Dean of the School

PARTICULARS OF THE CANDIDATE

NAME OF THE CANDIDATE	: L.K LALBIAKFELI
DEGREE	: DOCTOR OF PHILOSOPHY
DEPARTMENT	: EDUCATION
TITLE OF THESIS	: EXPLORING THE LIFE SKILLS COMPONENTS IN THE SECONDARY SCHOOL SYLLABUS : AN ANALYTICAL STUDY
DATE OF ADMISSION	: 06.09.2022
APPROVAL OF RESEARCH PROPOSAL	
1. DRC	: 27.03.2023
2. BOS	: 28.04.2023
3. SCHOOL BOARD	: 23.05.2023
MZU REGISTRATION NO.	: 1500974
Ph. D REGISTRATION NO. & DATE	: MZU/Ph.D./2117 of 06.09.2022
EXTENSION (If Any)	: N/A

Head of the Department (HOD)

Department of Education

Mizoram University

**EXPLORING THE LIFE SKILLS COMPONENTS IN THE
SECONDARY SCHOOL SYLLABUS: AN ANALYTICAL STUDY**

**AN ABSTRACT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY**

L.K. LALBIAKFELI

MZU REGISTRATION NO : 1500974

Ph. D REGISTRATION NO : MZU/Ph.D./2117 of 06.09.2022



DEPARTMENT OF EDUCATION

SCHOOL OF EDUCATION

FEBRUARY, 2026

**EXPLORING THE LIFE SKILLS COMPONENTS IN THE SECONDARY
SCHOOL SYLLABUS: AN ANALYTICAL STUDY**

BY

L.K. LALBIAKFELI

Department of Education

DR. MUTTU VEMULA

Supervisor

Submitted

**In partial fulfillment of the requirement of the Degree of Doctor of Philosophy in
Education, Mizoram University, Aizawl.**

Introduction

Education is the backbone of every country to rise up from ashes to build an empire in this cutthroat contemporary world. Every country's secret weapon lies on how efficient their education thrive within their nation, bridging the gap between the known and unknown to enlighten the people from the shadow of ignorant. Education is fundamental not only to individual advancement but also to the socio-economic and cultural development of societies. It is a powerful tool that shapes personalities, fosters innovation and builds the foundation for sustainable progress. At the individual level, education transforms lives by opening opportunities for better careers, financial independence and informed decision making. Research in India has shown that the expansion of education significantly contributed to poverty reduction with multidimensional poverty falling from about 55% in 2005 – 2006 to about 28% in 2015 – 16 (NIEPA, 2021). This illustrates how education equips individuals to realize their potential while uplifting entire communities.

The benefit of education extend beyond economics into health and well being. Studies across OECD countries demonstrates that individuals with tertiary education live on average about five years longer than those without upper secondary schooling (OECD,2018). Similarly, a study in Turkey revealed that compulsory schooling reforms led to improved health behaviours and healthier body weight among women (Arendt, 2018). These findings highlight the link between educational attainment and healthier lifestyles, longer life expectancy and reduced risks of chronic diseases. At a societal level, education builds social cohesion and strengthens democracy by promoting critical thinking, civic responsibility and respect for diversity. Thus, adolescence must be given consideration as this stage is a crucial stage in human development which is often regarded as the most significant phase of life. During this period, young people are completing their secondary education and are considered highly productive members of society due to their physical strength and intellectual potential. However, they also encounter numerous psycho-social and physical challenges that may result in stress, uncertainty, self-doubt,

disappointment and in severe cases even suicidal tendencies if left unresolved. Many adolescents also experience pressure to exceed normal expectations in order to gain recognition and approval from family and society (Subita,2013). In today's context, education must go beyond academic instruction to equip children with the ability to adapt to their surroundings, utilize resources effectively, recognize opportunities and tackle the challenges posed by society. Achieving such behavioural growth requires that school curricula be enriched with well-research, comprehensive life skills education. A child empowered with Life Skills develops the competence to face adversities and make constructive use of available resources to overcome life's difficulties (Srikala & Kishor,2010).

Research consistently shows that Life Skills play a vital role in the overall well being of individual particularly adolescents. Training in Life Skills and Life Skills-based education has been found to enhance self-esteem, self concept, self confidence, social adjustment, mental health and academic performance. It is also highly effective in reducing antisocial behaviours such as substance abuse, violence and suicidal tendencies while shaping individuals into active, responsible and productive members of society as well as good citizens. Anuradha (2012) demonstrated a strong link between Life Skills and self concept concluding that strengthening Life Skills enhances adolescents' self perception. Bardhan (2016), through a case study, showed that Life Skills training can bring positive behavioural changes among children with problematic behaviours. Bharath and Kumar (2010) found that participatory approaches such as games, debates, role plays and group discussion with the active involvement of teachers make Life Skills education an effective tool to promote adolescents' mental health. Malik (2012) reported significant improvement in academic anxiety, social adjustment and self-esteem levels among early adolescents after undergoing Life Skills training. Similarly, Moshki et.al. (2014) affirm the effectiveness of Life Skills education in preventing drug abuse and Amiran (2012) also emphasizes the positive impact on the academic achievement of a secondary school students especially boys from the first year in school. Prajapati (2017) also stated how Life Skills education is necessary in this contemporary society as this is going to

strengthen the social, emotional and cognitive abilities through engaging classroom activities such as brainstorming, storytelling, debates, role play, group discussion and situation analysis.

Adolescents represent the backbone of any nation's future as they are at a critical stage of development where physical strength, intellectual capacity and emotional maturity begin to align. This period is often described as the formative years in which values, attitudes and skills are cultivated that determine not only the individual's future but also the direction of society as a whole. Adolescents by virtue of their energy, creativity and ability to adapt, hold immense potential to become drivers of social progress, innovation and nation building. Their productivity and participation in community and national life are vital in shaping a country's political stability, economic growth and social cohesion. Education plays the most important place in all this transformative process and challenges of today's issues. It is not only a means of imparting academic knowledge but also a platform for shaping character, widening perspective and equipping adolescents with the necessary tools to face life's circumstances. A well-structured education system nurtures critical thinking, decision-making, problem solving and ethical responsibility in which all are essential for responsible citizenship. When adolescents are enlightened and educated, they are going to have an immense contributions to the society meaningfully, dealing with social inequalities and participate in democratic processes. Education further empowers them to make informed choices, gain employable skills and contribute to economic development thereby reducing poverty and inequality.

Theoretical Framework

The Mental Health Promotion and Policy (MHP) team of the World Health Organization (WHO) Department of Mental Health defines Life Skills education as a process aimed at enabling the practice and reinforcement of psychosocial skills in ways that are both culturally relevant and suited to developmental needs. Such education supports personal and social growth which helps prevent health and social problems and

safeguard human rights (WHO, 1999). UNICEF describes Life Skills as a set of psychosocial and interpersonal abilities regarded as essential for everyday functioning. The selection and focus of these skills depends on the context – for example, decision making is central in HIV/AIDS prevention while conflict resolution plays a greater role in peace education. The OECD through its DeSeCo project (Rychen & Salganik, 2001) provides a broad definition of Life Skills based on three main criteria : first, that key competencies support both a successful individual life and smooth functioning of society; second, that they equip people to address significant challenges across diverse contexts; and third, that they hold relevance for everyone. Within this framework, the OECD identifies three core areas of competence: the ability to work effectively in socially diverse groups, the capacity to act independently and the skills to using tools in interactive ways. In general terms, Life Skills can be understood as a combination of knowledge, behaviours, attitudes and values that reflects the ability and practical know how to achieve goals or accomplish tasks. They encompass a wide range of competencies such as critical thinking, creativity, organizational ability, communication and social skills, adaptability, problem solving and cooperative participation in democratic processes all of which are essential for building a peaceful future.

Thus, Life Skills education integrates psychological, social and emotional dimensions of learning to nurture well round individuals capable of adapting to life's challenges. Theories such as Bandura's Social learning, Beck and Ellis's Cognitive Behavior, Goleman's Emotional Intelligence, Kolb's Experiential Learning and the Humanistic perspectives of Maslow and Rogers collectively provide a comprehensive framework for understanding how Life Skills are developed and applied. Therefore, WHO ten core Life Skills components is undertaken to give a shape to the current study which is further divided into three dimensions :

1. Thinking skills,
2. Social skills and

3. Emotional skills

Under Thinking skills, it includes different skills like Critical thinking skills, Creative thinking skills, Problem solving skills, Self awareness skills and Decision making skills. These skills play a vital role in shaping an individual's overall development and success. They enhance one's ability to think independently, act responsibly and adapt effectively to changing circumstances. By fostering analytical reasoning, emotional understanding and sound judgment, they enable individuals to face challenges confidently and make informed choices. Such skills also encourage creativity, resilience and self motivation which are crucial for both personal growth and social interaction. In education and daily life, they promote holistic development, empowering individuals to manage emotions, build positive relationships and contribute meaningfully to their communities and the larger society.

Under Social Thinking skills, it includes skills like Effective Communication skills and Interpersonal Relationship skills. These skills are fundamental for building understanding, trust and cooperation among individuals. They enable people to express thoughts and emotions clearly, listen empathetically and resolve conflicts peacefully. These skills foster positive relationships, strengthen teamwork and create supportive social environments essential for both personal and professional success. In education and community life, they enhance collaboration, promote respect for diverse perspectives and reduce misunderstandings. By improving emotional connection and mutual respect, effective communication and healthy relationships contribute to mental well being, social harmony and the development of responsible, compassionate and confident individuals in an interconnected world.

Under Social skills, it include skills like Coping with Stress, Coping with Emotions and Empathy. The ability to handle pressure, regulate emotions and understand others' feelings is vital for personal well-being and social harmony. Managing challenges calmly helps maintain balance and supports effective decision making. Emotional regulation fosters self control, clarity of thoughts and positive behavior in difficult situations.

Understandings and connecting with others' perspective nurtures compassion, trust and cooperation. Together, these skills strengthen resilience, improve relationships and promote mental health, enabling individuals to adapt constructively to life's challenges while contributing positively to their communities.

Rationale of the Study

The rationale for this study arises from the growing understanding that education must go beyond academics to ensure the holistic development of learners. Global frameworks by WHO, UNESCO, and UNICEF emphasize Life Skills education as essential for preparing youth to meet real-life challenges with confidence and competence. In today's complex world, where students face social, emotional and economic pressures, skills such as critical thinking, emotional regulation and effective communication are as vital as academic success. India's National Education Policy (NEP) 2020 strongly advocates integrating Life Skills like problem-solving, creativity, empathy and resilience at all levels of education. However, despite its progressive vision, there remains a clear gap between policy and classroom reality. Many schools continue to emphasize rote learning and examinations rather than skill-based and experiential learning. This imbalance hinders the realization of NEP's goal of nurturing well-rounded, capable individuals.

Mizoram offers a particularly relevant context for this study due to its high literacy rate, strong community values and the coexistence of two educational systems MBSE and CBSE. This dual framework enables a meaningful comparative analysis of how Life Skills are interpreted and implemented within different curricular and administrative structures operating in the same socio-cultural setting. The study is further justified by the challenges faced by Mizo adolescents, including limited career opportunities, emotional stress and substance abuse issues that underscore the need for education fostering resilience, empathy and coping strategies. Adopting a systematic and empirical approach, the study examines textbooks, curricula, and classroom practices to assess the integration of Life Skills. It also explores the awareness and perceptions of students and teachers regarding

Life Skills, identifying the gap between the intended and implemented curricula. Findings are expected to show that emotional and social development often receive less attention compared to academic achievement.

By addressing this gap, the study aims to offer valuable insights for policymakers, educators and curriculum developers. It seeks to guide reforms in teacher training, material design and assessment methods to better reflect life skills learning. Ultimately, the research aspires to realign education with the NEP 2020 and global visions creating learners who are not only academically competent but also emotionally intelligent, socially responsible and prepared for life.

Statement of the Problem

From the above stated points discussed, studying about WHO ten core Life Skills components among the secondary school students and teachers regarding their attitude, their awareness level and how such Life Skills components are incorporated into their syllabus is a big challenges which emerged from the identified gap. Therefore, for the present study, the problem has been stated as, “Exploring the Life Skills Components in the Secondary School Syllabus : An Analytical Study”.

Operational Definition of Key Terms

1.Life Skills Components : In this study, Life Skills Components is defined as the systematic inclusion and application of the ten psychosocial competencies identified by the World Health Organization (WHO). These skills are grouped into three broad domains:

- **Cognitive or Thinking Skills:** Critical thinking, creative thinking, problem-solving, decision-making, and self-awareness.
- **Social Skills:** Effective communication and interpersonal relationship skills.
- **Emotional or Coping Skills:** Empathy, coping with emotions, and coping with stress.

The extent of Life Skills is determined by identifying the presence of these competencies within textbook content, activities and exercises, as well as through the level of life skills

awareness exhibited by students and teachers, as measured by standardized assessment tools.

2. Textbook Analysis : For this research, Textbook Analysis denotes the systematic examination of the prescribed secondary-level textbooks for Classes IX and X in Science, Social Science, and Mathematics published by both MBSE and NCERT. The analysis involves a detailed page-by-page review to identify, quantify, and categorize explicit or implicit representations of the ten WHO life skills across three sections of each chapter: content, activities, and questions.

3.Awareness Level of Students : The awareness level of students refers to their self-assessed understanding, recognition, and perceived competence regarding the ten core life skills. This is quantitatively evaluated using the “Life Skill Awareness Tool” developed by the researcher. The obtained scores are classified into three categories High, Average, and Low which is based on predetermined statistical criteria.

4. Perception of Teachers : The perception of teachers indicates their personal beliefs, attitudes, and self-evaluation concerning the relevance and their own mastery of life skills. This variable is measured using the “Teachers’ Life Skill Assessment Scale” developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal. Teachers’ scores are analyzed both in total and dimension-wise and are categorized into seven levels ranging from Extremely High to Extremely Low, reflecting their professional mindset and personal skill competence.

5. MBSE (Mizoram Board of School Education) Syllabus : The MBSE Syllabus refers to the official curriculum and textbooks prescribed for Classes IX and X in Science, Social Science, and Mathematics by the Mizoram Board of School Education. These textbooks form the primary qualitative data source for examining the integration of life skills within Mizoram’s educational framework.

6. CBSE (Central Board of School Education) Syllabus: In this study, the CBSE Syllabus denotes the textbooks developed by NCERT for Classes IX and X in Science, Social Science and Mathematics. These serve as the national benchmark for comparative analysis with the MBSE textbooks to evaluate differences in the integration of Life Skills.

7. Secondary School: Secondary school is the stage of formal education after primary education and prior to higher education. In the present study, secondary education implies the stage of education comprising classes IX and X.

Research Questions

The following research questions are stated to give answers to the present study :

1. How different Life Skills components are explored from the secondary school education syllabus?
2. How are the different Life Skills components incorporated in the CBSE secondary school syllabus?
3. How are the different Life Skills components incorporated in the MBSE secondary school syllabus?
4. How are CBSE and MBSE syllabus compared with reference to Life Skills components?
5. What is the perception of the secondary school teacher on Life Skills components in Mizoram?
6. What are the levels of awareness on Life Skills components of secondary school students?
7. What are the activities implemented in the secondary school education of Mizoram?

Hypothesis of the Study

1. There is no significant difference in the perception of Life Skills among secondary school teachers with regards to board i.e., MBSE and CBSE.
2. There is no significant difference among secondary school teachers perception of life skills with regard to Gender i.e., Male and Female.
3. There is no significant difference among secondary school teachers perception of Life Skills with regard to District – wise.
4. There is no significant difference among secondary school teachers perception of Life Skills with regard to Educational Qualification
5. There is no significant difference among secondary school teachers perception towards Life Skills with regard to Locality.
6. There is no significant difference in the Life Skills Awareness Level of secondary school students with regard to Class.
7. There is no significant difference in the Life Skills Awareness level of secondary students with regards to Board.
8. There is no significant difference in the Life Skills Awareness level of secondary students with regards to Family.
9. There is no significant difference in the Life Skills Awareness level of secondary students with regards to Gender.
10. There is no significant difference in the Life Skills Awareness level of secondary students with regards to Locality.
11. There is no significant difference in the Life Skills awareness level of secondary students with regards to economical status of family.
12. There is no significant difference in the Life Skills awareness level of secondary students with regards to parental education.
13. There is no significant difference in the Life Skills awareness level of secondary students with regards to district wise.

Objectives

1. To explore the Life Skills components in the secondary school education syllabus.
2. To analyze CBSE syllabus with reference to life skills education.
3. To analyze the MBSE syllabus with reference to life skills education.
4. To compare CBSE and MBSE syllabus with reference to Life Skills components of education.
5. To study the perception of the secondary school teacher on Life Skills education.
6. To study the awareness level of secondary school students towards life skills education.
7. To find out the activities implemented in the secondary school of Mizoram.

Review of Related Literature

For the present study, a total of 77 research papers are reviewed related to Life Skills. Among these 43 are national, 34 are international studies. The review spans research conducted between 2010 to 2026.

Based on the given reviews, research on Life Skills in India and internationally consistently demonstrates its significant positive impact. Studies confirm that structured Life Skills programs effectively enhance students' social-emotional skills, psychological well-being, academic performance and resilience, while reducing conduct problems and mental health issues. A recurring finding in the Indian context is the existence of disparities in Life Skills acquisition. Students from Central Boards (like CBSE) often show higher competence than those from State Boards and differences are also observed based on locality, socio-economic status and type of school (government vs. private). Findings on gender are mixed, with some studies showing boys outperforming girls and others indicating the reverse for specific skills like stress management. A critical challenge identified is the gap between policy and implementation. Barriers include insufficient teacher training, low awareness among educators, a lack of dedicated resources and the non-graded status of Life Skills in curricula. The reviews universally recommend the systematic integration of a structured, evidence-based Life Skills curriculum into the

standard school system, supported by robust teacher training, to ensure holistic student development.

Methodology of the Study

Research Methods

For the present study, *exploratory sequential mixed research design* is considered as the most appropriate methods for the study. Since this study followed mixed methods design, the study is done in a two phase process where qualitative study and findings are focus first then followed by quantitative study to give meaning to the data.

QUAL → quan : The first step for the study consisted of analyzing the secondary school syllabus of MBSE and CBSE boards textbook which was then followed by collecting and analyzing the quantitative data.

Population of the Study

The population for the present study comprised multiple components representing the key stakeholders and curricular materials of secondary education in Mizoram. The inclusion of diverse groups ensured a comprehensive understanding of how Life Skills education is conceptualized, implemented and experienced across different levels of the educational system. Specifically, the population consisted of:

1. Secondary School Syllabus (Class – IX & X) under CBSE and MBSE :

This includes the officially prescribed textbooks and curricular materials for Classes IX and X from both the Central Board of Secondary Education (CBSE) and Mizoram Board of School Education (MBSE). These textbooks were systematically analyzed to assess the degree of integration of WHO ten core Life Skills within the content. The inclusion of both boards enabled a comparative understanding of the curricular orientation and pedagogical focus across two major educational frameworks operating in the same socio-cultural setting.

2. Headmasters of Secondary Schools from CBSE and MBSE in Mizoram:

All headmasters from secondary schools affiliated with either CBSE or MBSE in Mizoram formed part of the study population. As institutional leaders, headmasters play a crucial role in the implementation of educational policies and the supervision of teaching learning processes. Their insights are essential for understanding the administrative and managerial support provided for integrating life skills education into the school environment.

3. Secondary School Students from CBSE and MBSE in Mizoram :

Students enrolled in CBSE and MBSE secondary schools across Mizoram constituted another major component of the study population. Since they are the direct recipients of classroom instruction, their awareness, attitudes and perceptions toward Life Skills provide valuable information about the effectiveness of curricular and pedagogical practices in developing holistic competencies.

4. Secondary School Teachers from CBSE and MBSE in Mizoram:

All teachers engaged in teaching at the secondary level under both boards were included in the study population. Teachers are the key agents responsible for implementing Life Skills through classroom interaction, instructional design, and assessment practices. Their level of preparedness, understanding, and challenges in promoting life skills were critical aspects examined in this study.

Sample of the Study

The study was conducted in two phases. In the first phase (qualitative), Thematic Content Analysis was used to examine each chapter of selected Social Science, Science, and Mathematics textbooks from both CBSE and MBSE to identify the presence of WHO's Ten Core Life Skills Components. Additionally, semi-structured interviews were conducted with twelve headmasters from five districts (Aizawl, Lunglei, Champhai, Mamit, and Kolasib) to gain deeper insights into how Life Skills are implemented in practice. Purposive sampling was used for selecting both textbooks and headmasters.

In the second phase (quantitative), stratified random sampling was employed to collect data from five districts representing different regions of Mizoram. Responses were obtained from 1,014 students (489 males, 525 females) and 83 teachers (47 males, 36 females) to assess their perception and awareness of Life Skills.

Tools Used for Data Collection

The following tools are utilized and administered to collect the data for the study:

1. Employing WHO's ten core Life Skills framework to analyze the CBSE and MBSE textbooks.
2. Semi – structure interview schedule with the Headmasters.
3. Students' Life Skills Awareness Scale developed by researcher.
4. Teachers' Life Skills Assessment Scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal.

Statistical Techniques Used in the Study

Taking into account the nature of the data and the objectives of the study, the researcher employed the following statistical techniques for analysis:

To analyze the secondary school syllabi of CBSE and MBSE textbooks, the WHO's Ten Core Life Skills framework was applied. The Life Skills identified from each textbook were then quantified and interpreted using percentages, rankings and frequency distributions to present the findings clearly. Along with the analysis of the textbook, semi-structure interview schedule proposed by Burgess (1984) was employed while conducting interview with the Headmaster of each secondary school visited. Both analysis of the data was done by using Braun and Clarke's (2006) thematic analysis approach.

For the semi-structured interview, the researcher initially designed ten items aimed at collecting data from the headmasters of selected schools. The development of these items involved an extensive review of relevant literature, including books, journals, research articles, handbooks and established Life Skills theories. In addition, consultations

and discussions were held with subject experts to ensure the content's depth and relevance. After drafting the items, the researcher sought validation from both subject matter experts and professionals from related fields to assess the clarity, relevance and appropriateness of each question. Based on the feedback and validation received, necessary revisions were made. Ultimately, five of the original ten items were retained for the final interview schedule, while the remaining five were eliminated due to redundancy, lack of relevance, or overlapping content. This process ensured that the finalized items were valid, reliable and well-aligned with the study's objectives.

Teachers' Life Skills Assessment Scale (TLSAS)

Teachers' Life Skills Assessment Scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal was employed to assess and identify the perception of secondary school teachers' towards Life Skills education. This level of Life Skills among the secondary school teacher was measured in four areas like Effective Communication Skills, Collaboration skills, Creative thinking skills and Critical thinking skills. This scale consists of both negative and positive statements with 14 items negative statements with item number 2,10,18,20,27,28,33,34,35,41,45,47,52,53 and the remaining items are positive statements.

Tools and Standardization of Students' Life Skills Awareness Scale

To achieve the objective of the present study, the researcher had develop a scale to study students' Awareness towards Life Skills education. For the development and standardization of the scale prepared, it followed a structured process, adhering to established steps outlined below :

Planning

To develop a rating scale for Life Skills, a systematic approach was undertaken. Relevant literature, including theoretical frameworks, research articles, newspapers, handbooks, and various assessment tools was thoroughly reviewed to clearly define the

focus and scope of the study. In consultation with subject matter experts and under the guidance of a mentor, the researcher ensured the inclusion of all ten core Life Skills components identified by the WHO: Critical Thinking, Creative Thinking, Problem-Solving, Self-Awareness, Decision-Making, Interpersonal Relationships, Effective Communication, Coping with Emotions and Empathy. Additionally, the types of instructions for the scale were determined at the initial stage after selecting the skills and their respective dimensions.

Item Writing and Preparation of 1st Draft

The initial step in developing a reliable scale is to generate as many items as possible. For this scale, the researcher initially created 120 items based on guidance from the expert. Each item was carefully constructed to eliminate ambiguity, avoid double-barreled statements and ensure clarity. To achieve this, relevant books, journals, research articles, handbooks and Life Skills theories were systematically reviewed. Additionally, discussions and consultations with subject experts were conducted. The items were designed to be concise, clear, direct, simple and precise.

Initial try out

Once the items were prepared and finalized by the researcher, the initial draft was subjected to a preliminary trial to assess language clarity, potential ambiguities and overall effectiveness. For this initial trial, expert opinion was taken into consideration. Once the items were prepared and finalized, the scale was reviewed by experts to assess content validity. A panel of six experts, including specialists in Life Skills, language and education was consulted for their feedback and recommendations. The suggestions provided by these experts were carefully considered and incorporated into the final draft.

Preparation of 2nd Draft for Pilot Study

After thoroughly reviewing expert opinions and suggestions on the provided items, necessary revisions were implemented to enhance clarity and effectiveness. Items that

appeared ambiguous were appropriately rephrased, while excessively long sentences were condensed for improved readability. Any confusing elements were substituted and rewritten based on the feedback received. Consequently, the revised second draft contains a total of 100 well-refined items.

Group Try Out

The revised second draft of the tool was given to 200 participants to collect data for conducting an item analysis.

Item Analysis

Item analysis is a statistical process used to evaluate the quality, effectiveness and performance of individual items (questions) in a test, survey or questionnaire. It helps researchers and educators determine whether each item is measuring what it is supposed to measure and contributes to the overall reliability and validity of the assessment. This technique is used to assess and filter items based on their internal consistency, level of difficulty, and ability to differentiate between respondents. To ensure the standardization of the scale, Kelley's method was employed for item analysis. In this method, responses from the highest-scoring 27% and lowest-scoring 27% of participants were compared to calculate each item's difficulty level and discrimination power.

Discriminating Power

To select the appropriate items, the discrimination power of each item is determined. The discrimination power measures how effectively an item differentiates between knowledgeable and less knowledgeable respondents. To calculate discrimination power, the scoring of the scale is first assigned, and then the total scores obtained by the respondents are arranged in descending order, from highest to lowest. The top 27% and bottom 27% of the scores are then selected for comparison. This results in 54 respondents being chosen from the higher-scoring group and 54 from the lower-scoring group. Once these high and low groups are identified, the mean and standard deviation were computed

for the 100 statements separately for both the upper and lower scoring groups. To examine whether there was a significant difference between the two groups, the t-value was calculated. Statements with a t-value of 2.00 or higher indicating significance at the 0.05 level of confidence were retained, while those with t-values below 2.00 indicating non-significance were discarded. Through this item discrimination process, 57 statements were eliminated, and the remaining 43 significant statements were selected for inclusion in the final scale. The mean, standard deviation, and discrimination indices for both groups are presented in the following table.

Final Draft

The final draft was developed after applying all the necessary statistical tools for item analysis. Out of the 100 items tested during the trial phase, only 43 items were retained and selected for the final version.

Reliability

Reliability is a crucial characteristic of a research instrument, indicating the consistency of scores or results. It measures the stability of the instrument's outcomes when applied repeatedly. To assess internal consistency and reliability, Split-Half Method and Cronbach Alpha was used in this study. For the Split-Half Method, the tool was first divided into two halves using the even-odd method. Items with even numbers (2, 4, 6, 8, ...) formed one half, while items with odd numbers (1, 3, 5, ...) formed the other half. After splitting, the correlation coefficient between the two sets of scores was calculated and found to be 0.724. The calculated reliability of Students' Life Skills Awareness Scale through Cronbach Alpha method was found to be 0.865. The reliability coefficients obtained from both methods indicate moderate and fair reliability of the research scale.

Table 1: Reliability of Students' Life Skills Awareness Scale

Title of Research Tool	Method	Reliability Coefficient	N(Sample Size)
Life Skills Awareness Scale	Split – Half method	0.724	200
	Cronbach alpha	0.865	200

Validity

Validity refers to the extent to which a scale truly measures what it is designed or intended to measure. It is a crucial aspect of research as it ensures that the results obtained are accurate, meaningful and applicable beyond the study sample. The Students' Life Skills Awareness Scale was given for content validity to the experts for validation and after considering all the opinions and suggestions from the subject experts, the tool was reframed and made changes according to the recommendations of the experts. Henceforth, selection of items was done through item analysis from the collected data. The Students' Life Skills Awareness Scale for secondary school students demonstrates adequate validity with respect to its items. Only those items that significantly discriminated between two extreme groups of students were retained in the final version of the scale. Specifically, items with a t-value of 2.00 or above were considered highly discriminating and thus included, ensuring the tool's effectiveness in measuring Life Skills awareness among secondary school students.

Scoring

The tool consist of five-point Likert Scale with the options like Strongly disagree, Disagree, Undecided, Agree, Strongly agree and the scoring for each item was given like 1,2,3,4 and 5 according to the options given. In case of negative items, the scoring for the above procedures is reversed as shown in the table 5 given below. Given the total of 43 statements, the maximum possible score was ($43 \times 5 = 215$), while the minimum possible score was ($43 \times 1 = 43$). Thus, the total score for this scale differs from 43 to 215 showing

lowest to highest life skills respectively. This scoring framework was adopted to reflect the extent of variation in the respondents' answers to the statements.

Table 2: Scoring System

Nature of item	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Positive	1	2	3	4	5
Negative	5	4	3	2	1

Standardization

For standardization of the tool, the Students' Life Skills Awareness scale was administered to 200 students from secondary school students of different schools of Aizawl, Mizoram. In which the sample comprises of both male and female respectively.

Statistical Results

Prior to the responses received from the 200 participants, the following statistical results were employed :

Table 3: Statistical Results

N	Mean	SD	Range of Scores
200	329.33	29.552	43 - 215

Norms

Norms serve as a foundation for interpreting an individual's score in comparison to the performance of a group. A raw score by itself carries little meaning unless it is evaluated against established norms or standardized procedures. Through the use of norms, raw scores can be understood in the context of a wider distribution, offering a reference point for assessing the performance or behaviour of individuals and groups.

They play an important role in identifying patterns, trends, as well as deviations from the average.

Table 4: Norms for Interpretation of Students' Life Skills Awareness Scale

Sl.no	Range of z-score	Level of Students' Life Skills	Interpretation
1.	+2.01 and above	Extremely good	High
	+1.26 to +2.00	Good	
2.	+0.51 to +1.25	Above average	Average
	-0.50 to +0.50 to	Average	
	-0.51 to -1.25 to	Below average	
3.	-1.26 to -2.00 to	Poor	Low
	-2.01 and below	Extremely poor	

Prior to table 3.15, the scores are classified into high, average and low categories using z-score for the Students' Life Skills Awareness Scale.

Procedures of Data Collection

The qualitative data for the study involved examining the secondary school syllabi of both CBSE and MBSE textbooks along with the selected textbooks a Semi-Structure Interview schedule was conducted with the Headmasters from each school visited. For both investigation in textbook analysis and interview with the headmasters, Purposive sampling technique was employed.

Quantitative data, on the other hand, were collected through stratified random sampling. The researcher visited secondary schools across five districts representing the north, east, south, and west with Aizawl as the central district namely Kolasib, Champhai, Lunglei, Mamit and Aizawl. In total, twelve schools were visited to gather the required data for the study.

For the **qualitative study**, the researcher selected three subjects from class – IX and class – X syllabus for the current study. The chosen textbook consist of Social Science textbook, Science textbook and Mathematics textbook from both CBSE and MBSE curriculum. For analyzing the textbook, Thematic content analysis is employed in order to develop a systematic and proper identification for the required findings. The researcher followed WHO ten core Life Skills framework as a guiding principle to analyze the textbook. The researcher read each textbook page by page, sentence by sentence, column by column and exercises to identify different Life Skills components embedded within the textbook. After the researcher re-read the selected textbook for the third time, finalization with the figures and numbering identified from each textbook is made. From each textbook, the different Life Skills components are identified at the content section, activity section and question section which are all important sections for the formation of the textbook. From the CBSE Class IX and X textbooks, a total of 3,216 Life Skills items were identified, showing a wide distribution of skills across the content. In comparison, the MBSE textbooks for the same classes revealed 4,229 Life Skills items. These items were drawn from the three selected subjects – Social Science, Science and Mathematics highlighting the presence of Life Skills across different sections of the textbooks chosen for analysis.

For the second component of the **qualitative study**, interviews were carried out with the headmasters of the schools selected for visitation as part of the data collection process. A semi-structured interview schedule was employed, allowing flexibility in responses, while purposive sampling technique was used to select the participants. Prior to visiting the schools in each district, the researcher consulted with the supervisor, discussed the process and obtained formal approval from the university to proceed with the fieldwork. Before entering individual schools, the researcher first approached the District Education Office (DEO) to secure official permission for visiting the different institutions. With the DEO's approval, the data collection was conducted smoothly, without hindrance or disruptions. In total, twelve headmasters from both CBSE and MBSE schools were interviewed with 5 headmasters from the CBSE schools and 7 headmasters

from MBSE schools. The researcher made efforts to establish rapport with the participants, creating a comfortable environment to go beyond formality and encourage open dialogue. Through this approach, meaningful information was gathered on how the schools implement and adapted Life Skills. The discussions provided insights into both commonalities and variations in practices across schools. The light yet purposeful conversations allowed the researcher to gain a deeper understanding of how headmasters perceive and address students' development of Life Skills within their respective institutions.

For the second phase of data collection i.e., **quantitative phase**, the researcher employed stratified random sampling technique for the selection of schools. The same protocol is followed by first taking approval letter from the DEO office from each visited district before going to the school. Thus, the quantitative data is collected from both the teachers and students from each visited school. For collecting the data, self – made Life Skills' awareness scale for the students and teachers' Life Skills assessment scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal was used. Before administering the questionnaire to the students, a quick briefing was given to the students on how they should give response to each item and a short speech about importance of Life Skills in our daily life and their awareness about Life Skills is asked. When administering the questionnaire to the students, students are given information that there is no right or wrong answers to their responses and that their responses are kept confidential and will be use only for research purposes. They were given sufficient time to give genuine answers to each item. While administering the test, utmost care was taken to confirm that each statements are addressed and necessary personal information was provided by the participants. Thus, a total of 1014 responses are collected from the participants as a whole from each districts and schools visited.

On the other hand, Teachers' Life Skills Assessment Scale developed by Dr. Shipra Srivastava and Dr. Kiran Lata Dangwal was utilized to collect the required data

from the secondary school teachers towards their perception on Life Skills. Thus, a total of 83 responses were received while collecting the data from the districts visited.

Statistical Techniques for Analysis

Taking into account the nature of the data and the objectives of the study, the researcher employed the following statistical techniques for analysis:

Qualitative data analysis

To analyze the secondary school syllabi of CBSE and MBSE textbooks, the WHO's Ten Core Life Skills framework was applied. The Life Skills identified from each textbook were then quantified and interpreted using percentages, rankings and frequency distributions to present the findings clearly. Along with the analysis of the textbook, semi-structure interview schedule with the Headmaster of each secondary school visited was conducted. Both analysis of the data was done by using Braun and Clarke's (2006) thematic analysis approach. The process involved the following stages are :

Step 1: Becoming familiar with the data

Step 2: Generating initial codes

Step 3: Identifying potential themes

Step 4: Reviewing and refining themes

Step 5: Defining and labeling themes

Step 6: Producing the report

Following these steps, the relevant qualitative insights were incorporated into the quantitative findings to strengthen the overall results.

Quantitative data analysis

1. Descriptive statistics measures : Descriptive statistics such as mean, standard deviation, z-scores are applied to interpret the data with SPSS, examine score patterns and categorize students and teachers according to the characteristics of their results.

2. Test of significance for mean difference : To understand the significance of difference in mean score among different group categorize by gender, class, locality, board and family, t-test was employed using SPSS.

3. ANOVA : It is a statistical method used to determine whether there are any statistically significant differences between the means of three or more groups. Thus to understand and study the significant difference in mean score of more than two variables among different group categorize as economical status of family, district wise comparison, parental education and previous class grade, ANOVA with post hoc test (Games Howell) was utilized for unequal sample sizes and unequal variances using SPSS.

FINDINGS RELATED TO OBJECTIVE 1: Exploring the Life Skills Components in the Secondary School Education Syllabus

The analysis of Life Skills integration in the secondary school textbooks of the Central Board of School Education (CBSE) and Mizoram Board of School Education (MBSE) reveals a clear imbalance between cognitive, social and emotional skill development. Both curricula demonstrate a strong focus on thinking skills particularly problem-solving and critical thinking skills while social and emotional skills remain underrepresented. This pattern indicates a traditional, examination-driven approach that values intellectual mastery over holistic education, which contradicts the intent of the National Education Policy (NEP) 2020 that emphasizes the development of the head, heart and hand.

In the MBSE curriculum, textbooks for Classes IX and X across Social Science, Mathematics and Science show wide variation in the inclusion of the ten core Life Skills components identified by the World Health Organization (WHO). Social Science textbooks display the broadest integration, covering all ten skills, particularly critical thinking, empathy and self-awareness. However, despite their broad coverage, most of the Life Skills are confined to content and question sections, with minimal activity-based learning. Mathematics textbooks are dominated by problem-solving skills, with an almost complete absence of social and coping skills, showing a narrow view of learning focused solely on cognitive achievement. Science textbooks occupy an intermediate position, with moderate inclusion of thinking skills but only superficial integration of emotional and social skills such as coping with stress, empathy and decision-making. Overall, MBSE textbooks emphasize analytical and cognitive learning but fail to create experiential opportunities for students to internalize and apply life skills, resulting in limited holistic development.

A similar trend is observed in the CBSE curriculum. While CBSE textbooks make deliberate efforts to embed Life Skills through inquiry-based and analytical tasks, they too disproportionately favor thinking skills. Social Science textbooks include all ten WHO

Life Skills, integrating empathy and coping mechanisms through narratives and case studies, but again fall short in activity-based pedagogy. Mathematics textbooks remain heavily skewed toward problem-solving and critical thinking, with negligible scope for collaboration, creativity or social-emotional engagement. Science textbooks moderately integrate thinking skills through inquiry and experimentation but offer little emphasis on teamwork, communication, or ethical reflection. This dominance of cognitive skills reflects a long-standing emphasis on academic excellence, leaving emotional and social competencies neglected.

Across both curricula, the imbalance between cognitive and socio-emotional domains demonstrates a systemic issue where education remains content-heavy and examination-oriented. While both CBSE and MBSE effectively strengthen intellectual development, they fail to promote holistic growth. To align with NEP 2020's vision, future textbooks must incorporate experiential, activity-based learning that equally nurtures thinking, social and emotional skills, preparing students not just for academic success but for life itself.

FINDINGS RELATED TO OBJECTIVE 2: Analyzing CBSE Syllabus with Reference to Life Skills Components

1. Analyzing CBSE Class – IX Social Science textbook

CBSE Class – IX Social Science textbook presents a well-balanced blend of theoretical understanding and activity-based learning, integrating all ten WHO-recommended Life Skills components effectively. With a total of 671 identified Life Skills items, the textbook demonstrates comprehensive curriculum planning aimed at developing learners' cognitive, emotional and social abilities. The content is thoughtfully designed to match the learners' age and mental level, offering rich examples, visuals and structured exercises that promote meaningful and interactive learning experiences.

Among the ten Life Skills, Critical Thinking stands out as the most dominant, with 334 items identified, showing a clear focus on enhancing analytical and reflective abilities.

Creative Thinking follows with 76 items, while Problem Solving includes 57 items, both contributing to the development of cognitive flexibility and reasoning skills.

Coping with Stress appears with 56 items, and Empathy with 48 items, indicating a moderate emphasis on emotional balance and social sensitivity.

Coping with Emotions is represented by 34 items, reflecting some effort to promote emotional regulation and self-control among learners.

The remaining skills like Decision Making with 20 items, Interpersonal Relationships with 18 items, Effective Communication with 15 items and Self-Awareness with 13 items show relatively low representation. This suggests that while cognitive and analytical skills receive strong attention, social and emotional dimensions remain underdeveloped. These skills are crucial for shaping students into emotionally intelligent and socially responsible individuals, yet they are insufficiently emphasized in the current design.

Overall, the textbook provides a solid foundation for holistic education, successfully promoting cognitive growth while partially addressing emotional and social development. Strengthening the balance across all Life Skills through deeper, context-based activities would further enhance its effectiveness and align it more closely with NEP 2020's holistic learning vision.

2. Analysis of CBSE Class – IX Maths Textbook

The analysis of the CBSE Class IX Mathematics textbook reveals a strong emphasis on cognitive development, with a total of 338 Life Skills items identified across all chapters. The textbook provides a solid foundation in mathematical concepts such as algebra, geometry, mensuration and statistics, supporting learners' logical reasoning and analytical abilities. However, the distribution of the WHO's ten core Life Skills shows a clear imbalance with Thinking Skills dominate overwhelmingly while Social and Emotional skills receive almost no attention.

Among the ten core skills, Problem Solving Skills are the most frequently represented, with 227 items identified. This dominance reflects the textbook's core focus on analytical reasoning and computational accuracy.

Critical Thinking Skills are the next most represented, with 70 items, emphasizing reasoning, analysis, and conceptual understanding.

Creative Thinking Skills, represented by 35 items, are even less emphasized, suggesting limited opportunities for students to approach mathematical tasks with imagination or to explore multiple ways of reaching conclusions.

Self-Awareness Skills, only 4 items were identified. This minimal presence shows that the textbook provides almost no scope for reflection on learning processes, confidence-building or self-evaluation.

Effective Communication Skills and Empathy each have just 1 item, indicating a serious lack of opportunities for peer discussion, collaborative problem-solving or emotional connection to content.

There is a complete absence of Decision-Making, Interpersonal Relationships, Coping with Emotions, and Coping with Stress skills, all of which are vital for holistic learning and emotional well-being. Their omission shows that the textbook focuses narrowly on cognitive skills, neglecting essential competencies for personal and social development.

Overall, CBSE Class – IX Mathematics textbook successfully nurtures analytical and problem-solving abilities but lacks balance in fostering emotional intelligence and social adaptability. To align with NEP 2020's vision of holistic education, future editions should integrate activities, discussions and contextual examples that promote creativity, empathy, communication, and self-reflection ensuring that students become not only mathematically capable but also emotionally resilient and socially aware individuals.

3. Analysis of CBSE Class IX Science textbook

The analysis of the CBSE Class IX Science textbook reveals a comprehensive yet uneven distribution of the WHO ten core Life Skills with a total of 528 identified items across content, activities and questions. The textbook demonstrates a strong focus on cognitive development and scientific reasoning, aligning well with the nature of science education. However, it also shows clear disparities in the representation of social and emotional skills, which are essential for the holistic development of learners as envisioned in NEP 2020.

Among the ten Life Skills, Critical Thinking Skills are the most dominant, with 248 identified items. This strong emphasis highlights the textbook's primary goal of cultivating logical reasoning, inquiry and evidence-based understanding.

Problem-Solving Skills follow closely with 184 items. This substantial representation reflects the textbook's focus on engaging students in observation, hypothesis formation, and practical experimentation, enabling them to apply scientific concepts to real-life problems. Together, these two skills constitute over 80% of all identified Life Skills, demonstrating a dominant focus on cognitive and analytical growth.

Creative Thinking Skills are represented by 54 items, showing moderate inclusion. While this reflects some encouragement for imagination and innovation, its limited presence suggests that the textbook provides few opportunities for students to explore alternative solutions or think beyond the prescribed content.

Decision-Making Skills with only 5 items and Self-Awareness Skills with 10 items are minimally represented indicating that the textbook provides little scope for reflective or independent thinking, both of which are crucial for personal growth and responsible action.

In terms of Social Skills, Effective Communication Skills are represented by 14 items, while Interpersonal Relationship Skills have only 8 items. These low numbers

reveal that collaboration, discussion, and teamwork essential components of learning science are largely underemphasized.

Coping Skills category shows the weakest representation. Empathy and Coping with Emotions each appear in 2 items while Coping with Stress is represented by just 1 item. These minimal inclusions suggest a near absence of emotional or psychological support elements in the textbook despite their importance in fostering resilience and emotional intelligence among learners.

Overall, the Science textbook integrates all ten core Life Skills but with a strong bias toward Thinking Skills. While it excels in promoting analytical and problem-solving abilities, it falls short in nurturing emotional and social competencies. A more balanced integration of all skill domains would enhance the textbook's potential to support holistic, learner-centered education.

4. Analysis of CBSE Class – X Social Science Textbook

CBSE Class X Social Science textbook is a comprehensive and well-structured resource that integrates key concepts from Geography, History, Political Science and Economics. Across its 22 chapters, a total of 724 Life Skill items were identified covering all ten core components as outlined by the WHO. The textbook demonstrates a strong emphasis on cognitive development while also incorporating social and emotional learning though the distribution of these skills is uneven.

Critical Thinking Skills are the most prominently featured with 356 items, accounting for nearly half of the total Life Skills identified. This high representation reflects the textbook's focus on fostering analytical abilities, evidence-based reasoning, and problem awareness equipping students to understand complex social, economic and political phenomena.

Creative Thinking Skills follow with 99 items, supporting imaginative and innovative approaches, though their limited presence indicates that opportunities for

divergent thinking and novel problem-solving are relatively sparse compared to critical thinking.

Empathy is represented by 45 items, highlighting the textbook's attention to moral awareness, compassion, and understanding of diverse perspectives.

Problem-Solving Skills are noted in 44 items, providing learners with opportunities to engage in analytical exercises and apply knowledge to practical scenarios, although this remains underrepresented compared to cognitive skills.

Interpersonal Relationship Skills appear in 34 items, reflecting a modest emphasis on collaboration and social interaction, which is essential for group learning and cooperative activities.

Coping with Emotions is identified 32 times supporting students' emotional regulation while Effective Communication, Self-Awareness and Coping with Stress each have 31 items being identified indicating limited but present attention to personal growth, expression and resilience.

Decision-Making Skills are the least represented, with 21 items suggesting minimal focus on guiding learners to make informed and responsible choices independently.

While the textbook succeeds in promoting analytical, critical and creative thinking, it underrepresents social and emotional competencies essential for holistic development. Enhancing the presence of interpersonal, communication and coping skills would align the textbook more closely with the objectives of holistic education and NEP 2020, ensuring learners are prepared not only intellectually but also socially and emotionally for real-world challenges.

5. Analysis of CBSE Class – X Maths Textbook

CBSE Class–X Mathematics textbook is a well-organized, concept-driven resource designed to build a strong foundation in core mathematical concepts. Across its 14 chapters a total of 482 Life Skill items were identified all concentrated on Thinking Skills, while Social and Emotional Skills are entirely absent. This reflects a highly focused, yet narrow approach to Life Skill integration, prioritizing analytical reasoning and problem-solving over holistic development.

Problem-Solving Skills dominate the textbook, with 394 items, accounting for the vast majority of Life Skill entries. This emphasis aligns closely with the nature of mathematics, which requires logical reasoning, structured thinking and the ability to reach clear conclusions.

Critical Thinking Skills are represented by 76 items, providing some opportunities for learners to analyze, interpret and evaluate mathematical situations beyond routine procedures. While these items support higher-order cognitive engagement, their limited presence indicates that critical thinking is secondary to procedural problem-solving.

Creative Thinking Skills appear only 12 times, suggesting that opportunities for imaginative approaches, alternative solutions, and divergent thinking are rare. The minimal inclusion of creative thinking restricts students' ability to explore innovative strategies and flexible problem-solving techniques within the mathematical context.

Skills such as Decision-Making, Self-Awareness, Interpersonal Relationships, Effective Communication, Coping with Emotions, Coping with Stress, and Empathy are entirely absent, revealing a significant gap in fostering social, emotional and reflective capacities. The omission of these skills indicates that the textbook focuses narrowly on cognitive development without addressing the broader competencies necessary for holistic education, as envisioned by NEP 2020 and WHO's Life Skills framework.

Thus in conclusion, while the textbook effectively develops problem-solving and analytical abilities, it lacks a balanced integration of Life Skills, limiting its capacity to support students' comprehensive personal, social and emotional growth.

6. Analysis of CBSE Class – X Science Textbook

CBSE Class X Science textbook is a well-structured and balanced resource, integrating key concepts from physics, chemistry, biology, and environmental science. Across its 13 chapters, a total of 473 Life Skill items were identified covering Thinking, Social and Emotional skills. Thinking Skills dominate the textbook, with 459 items, reflecting a strong emphasis on cognitive development, particularly analytical reasoning, logical evaluation, and problem-solving abilities. This focus aligns naturally with the subject matter, where critical thinking and inquiry-based learning are essential for understanding scientific principles and their real-life applications.

Among Thinking Skills, Critical Thinking is the most prominent with 236 items, representing the largest share of Life Skill integration. This high emphasis highlights the textbook's role in fostering analytical reasoning, reflection and careful evaluation of scientific phenomena.

Problem-Solving Skills follows with 140 items demonstrating the textbook's commitment to developing learners' ability to apply scientific concepts, test hypotheses and derive logical solutions to complex problems.

Creative Thinking Skills are represented by 64 items, offering some scope for imaginative exploration and alternative approaches, although their overall impact remains limited compared to other cognitive skills.

Decision-Making and Self-Awareness Skills are minimally identified with 5 and 14 items respectively, providing limited opportunities for students to make informed choices or reflect on their learning and personal growth.

Social Skills are noticeably underrepresented, with only 4 items identified across the textbook with Interpersonal Relationship Skills account for 1 item, while Effective Communication Skills include just 3 items which indicate that collaborative learning, discussion and social engagement receive very little attention.

Emotional Skills are slightly more present with 10 items, including Coping with Emotions (2 items), Coping with Stress (3 items) and Empathy (5 items). While these skills contribute to emotional and mental well-being, their limited representation suggests that the textbook does not fully support the development of resilience, empathy or emotional intelligence among learners.

Thus, to achieve a more holistic approach aligned with NEP 2020, the textbook could expand its inclusion of self-awareness, empathy, communication and coping skills through additional content, activities and inquiry-based tasks, preparing students for both academic success and real-world challenges.

FINDINGS RELATED TO OBJECTIVE 3 : Analyzing the MBSE Syllabus with Reference to Life Skills Components.

1. Analysis of MBSE Class – IX Social Science Textbook

MBSE Class IX Social Science textbook reveals a comprehensive inclusion of Life Skills aligned with the WHO's ten core Life Skills components. A total of 528 Life Skills items were identified across the textbook highlighting a strong but uneven integration of cognitive, social, and emotional competencies. However, the data also show that certain life skills are significantly prioritized over others, resulting in an imbalanced skill distribution.

The most dominant components is Thinking Skills with Critical Thinking Skills alone contributing 220 items, making it the most emphasized skill in the textbook.

Problem Solving Skills follow with 71 items, reflecting a moderate inclusion aimed at encouraging students to apply learned concepts in practical and contextual situations.

Creative Thinking Skills are represented by 51 items, suggesting some effort to inspire innovation and imagination, though not as extensively as critical or problem-solving skills.

Decision Making Skills appear in 13 items, indicating limited opportunities for learners to explore alternative choices or consequences in problem scenarios.

Self-Awareness Skills are the least represented among thinking-related abilities, with only 2 items, revealing a notable absence of reflective exercises that help learners understand their emotions, strengths and values. Altogether, Thinking Skills account for 357 items, demonstrating the textbook's cognitive focus.

Social Skills receive far less attention. Interpersonal Relationship Skills appear in 15 items, and Effective Communication Skills in only 6 items, together totaling 21 items. This limited representation highlights a lack of interactive or cooperative learning opportunities.

Coping or Emotional Skills show a more substantial presence, with Empathy identified in 74 items, Coping with Stress in 64 items and Coping with Emotions in 12 items totaling 150 items. The strong presence of empathy reflects efforts to build emotional understanding and social awareness through themes of history, human struggle and global connection.

However, coping-related skills remain modestly developed, suggesting insufficient focus on emotional resilience and well-being key aspects emphasized by the NEP 2020.

Overall, while the textbook excels in promoting cognitive growth through critical and problem-solving exercises, it falls short in nurturing social and emotional competencies. The imbalance in the distribution of skills underscores the need for more activity-based and experiential learning to ensure well-rounded life skill education aligned with holistic development goals.

2. Analysis of MBSE Class – IX Maths Textbook

MBSE Class IX Mathematics textbook reveals a total of 844 Life Skills items, all of which are concentrated within the Thinking Skills domain. The complete absence of skills under the Social and Emotional categories highlights a significant gap in the textbook's approach to holistic education. While the focus on cognitive development is understandable for a mathematics curriculum, the lack of balance limits students' opportunities to develop other essential life skills such as communication, empathy and emotional regulation.

Under Thinking Skills, Problem Solving Skills dominate with 708 identified items, reflecting the subject's strong orientation toward logical reasoning and analytical thinking. The strong focus on problem-solving builds reasoning skills but creates an imbalance, overshadowing other important cognitive areas.

Critical Thinking Skills appear next with 106 identified items throughout the textbook. Critical thinking appears mainly in explanatory parts and problem-based questions, showing some effort to promote analysis beyond rote learning. However, with few such instances across 23 chapters, opportunities for deeper reasoning are limited. Future editions should add more open-ended and inquiry-based tasks to enhance this skill.

Creative Thinking Skills are the least represented among the Thinking Skills with only 30 identified items. The limited focus on creativity shows a teaching approach that values accuracy over innovation. Missing activities like exploring patterns or alternative solutions restrict students' flexibility and imagination in mathematics.

Notably, Social and Emotional Skills such as Communication, Empathy, Coping with Emotions, and Stress Management are entirely absent. This omission indicates that the textbook focuses exclusively on intellectual development while neglecting interpersonal and emotional competencies vital for holistic growth. To align with NEP 2020's vision, future editions should integrate collaborative tasks, reflective exercises and

real-life contexts that promote emotional intelligence and teamwork alongside cognitive mastery.

3. Analysis of MBSE Class – IX Science Textbook

MBSE Class IX Science textbook reveals a total of 604 Life Skills items, showing a strong emphasis on cognitive development particularly within the domain of Thinking Skills. The textbook integrates these skills primarily through conceptual explanations, inquiry-based questions and problem-oriented exercises across its 15 chapters. However, the distribution of skills indicates a heavy imbalance, as cognitive dimensions are prioritized while social and emotional competencies receive minimal or no attention.

Among the ten WHO core Life Skills, Critical Thinking Skills are the most dominant with 344 identified items accounting for over half of the total. The strong focus on analytical reasoning and evidence-based understanding reflects the textbook's emphasis on scientific inquiry. While this promotes academic rigor and logical thinking, it also shows a narrow focus that overlooks holistic development.

Problem-Solving Skills rank second with 219 identified items demonstrating the subject's natural focus on applying knowledge to real-world challenges. The presence of numerous numerical exercises and application-based questions reinforces learners' capacity to analyze and resolve scientific problems effectively.

Creative Thinking Skills appear next with only 30 items reflecting limited opportunities for imagination and innovation. The few instances that promote creativity are mostly found in conceptual discussions and activities that ask students to think beyond textbook knowledge.

In contrast, Decision-Making Skills are nearly absent, with only 1 item identified. This minimal inclusion suggests a lack of focus on enabling students to evaluate options or make informed judgments based on evidence.

Likewise, Coping with Stress and Empathy are barely represented with only 7 and 3 items respectively showing only marginal attention to emotional well-being or social awareness. The complete absence of Self-Awareness, Effective Communication, Interpersonal Relationships, and Coping with Emotions further exposes the textbook's cognitive bias.

Overall, MBSE Class IX Science textbook emphasizes intellectual growth through Critical and Problem-Solving Skills but lacks balance across other Life Skill domains. The neglect of emotional and social competencies limits its alignment with NEP 2020's vision of holistic, inclusive and life-oriented education.

4. Analysis of MBSE Class – X Social Science Textbook

MBSE Class X Social Science textbook is a comprehensive and well-structured resource, comprising 25 chapters across the domains of History, Geography, Political Science, Economics, and Disaster Management. An analysis of the textbook identified a total of 681 Life Skills items, reflecting an overall effort to integrate the ten core Life Skills outlined by the World Health Organization.

Among these, Thinking Skills are most prominently represented, with 494 items identified across chapters. This includes 308 instances of Critical Thinking Skills and 128 items of Problem-Solving Skills, demonstrating the textbook's strong emphasis on analytical reasoning, logical interpretation, and inquiry-based learning.

Creative Thinking is comparatively underrepresented with only 45 items, suggesting limited opportunities for students to explore imaginative or innovative approaches to problem-solving.

Decision-Making Skills appear only eight times while Self-Awareness is found in five instances indicating minimal inclusion of reflective or evaluative capacities.

Emotional Skills are represented by 152 items highlighting some attention to the personal and affective development of learners. Coping with Stress appears 69 times and

Empathy is identified 53 times, reflecting recognition of the importance of emotional resilience and compassion. Coping with Emotions is integrated 30 instances.

Social Skills are the least represented in the textbook with only 35 items identified. Interpersonal Relationship Skills appear 30 times and Effective Communication is found in just five instances, indicating that collaborative, communicative and team-oriented competencies are minimally emphasized. This suggests that the textbook provides limited scope for students to practice social interaction, cooperation and dialogue which are essential for holistic education.

Thus, the analysis reveals a strong dominance of Thinking Skills, emphasizing critical thinking, problem-solving, and analytical reasoning. Emotional Skills are moderately represented while Social Skills are minimal, resulting in an uneven Life Skills distribution. This shows that, although the textbook supports cognitive growth, it lacks a holistic approach to emotional and social development. To align with holistic education and NEP 2020, future editions should integrate all ten WHO core Life Skills, fostering well-rounded learners with balanced cognitive, emotional and social competencies.

5. Analysis of MBSE Class – X Maths Textbook

MBSE Class X Mathematics textbook is heavily oriented toward developing Thinking Skills but Social skills and Emotional skills are underrepresented in the textbook. In this textbook, a total of 1,017 Life Skills items are identified while analyzing the textbook.

Problem-solving skills dominates the textbook accounting for 946 of all Life Skills items, highlighting a strong emphasis on analytical reasoning, logical thinking and mathematical application. However, this dominance also exposes a lack of balance as other life skills receive minimal attention.

Critical thinking skills is represented with 59 items identified. While it supports analytical and evaluative reasoning, its limited presence suggests that students' broader thinking abilities are not fully nurtured.

Creative thinking skills appears even less frequently with only 10 identified items. This minimal representation reflects a missed opportunity to encourage innovation, flexibility and imaginative approaches in mathematics learning.

Social Skills are almost entirely absent from the textbook with only a single item identified under Effective Communication and none for Interpersonal Relationships. This indicates a clear gap in fostering collaboration, peer interaction and communicative competencies, which are essential for holistic education.

Emotional Skills are similarly underrepresented; Coping with Stress is recorded once and Coping with Emotions and Empathy are entirely missing. This limited inclusion highlights a lack of attention to students' socio-emotional development, resilience, and emotional intelligence.

In summary, the MBSE Class X Mathematics textbook prioritizes Problem-Solving, followed by Critical and Creative Thinking while Social and Emotional Skills are minimally represented. The heavy cognitive focus coupled with negligible attention to emotional and social competencies indicates a need for future revisions to adopt a more balanced, inclusive approach to life skills education that supports students' overall development.

6.Textbook Analysis of MBSE Class – X Science Textbook

MBSE Class X Science textbook demonstrates a strong emphasis on Thinking skills which is followed by Emotional skills and Social skills at the end. Thus, in this textbook a total of 555 Life Skills items are identified from the textbook.

Among these, Critical Thinking is the most prominent with 356 instances, reflecting the textbook's focus on developing analytical reasoning, logical evaluation and scientific inquiry.

Problem-Solving Skills are the second most frequently identified with 115 items, supporting students' ability to approach complex scientific problems methodically.

Creative Thinking is also included though to a lesser extent with 57 items, indicating some encouragement for innovation and imaginative exploration within scientific concepts. Other Thinking Skills such as Decision-Making and Self-Awareness are minimally represented with only 2 items each showing a limited focus on reflective and evaluative capacities beyond core cognitive reasoning.

Social Skills receive very little attention in the textbook with only 2 items identified. Interpersonal Relationship Skills account for 2 items, while Effective Communication is completely absent. This sparse inclusion indicates a significant gap in promoting collaboration, communication and teamwork, which are essential for holistic scientific learning and the development of socially competent learners.

Emotional Skills are somewhat better represented than Social Skills but remain underdeveloped totaling 21 items across all chapters. Coping with Stress appears 14 times, making it the most frequent Emotional Skill while Coping with Emotions is identified only 3 times. Empathy is represented 4 items. These numbers indicate that while the textbook touches upon aspects of emotional regulation and empathy, the coverage is minimal compared to the heavy emphasis on cognitive skills.

In summary, MBSE class – IX Science textbook strongly promotes Critical Thinking, Problem-Solving and Creative Thinking with 532 items identified under Thinking Skills, but it significantly underrepresents Social Skills with 2 items and Emotional Skills with 21 items. While it offers a solid foundation for intellectual growth, the limited inclusion of emotional and social competencies points to a need for more

balanced integration to align with holistic educational goals and the NEP 2020 vision of well-rounded student development.

FINDINGS RELATED TO OBJECTIVE 4 : Comparing CBSE and MBSE Syllabus with Reference to Life Skills Components of Education.

1. Life Skills Integration in CBSE Vs MBSE Class – IX Social Science Textbook

The analysis of CBSE and MBSE Class IX Social Science textbooks reveals that both textbooks are primarily theoretical and designed to provide essential knowledge, helping students broaden their understanding and develop analytical capabilities. Both textbooks integrate Life Skills components aligned with NEP 2020, emphasizing competency-based learning, critical thinking and holistic development. However, significant differences emerge in the distribution, scope and balance of these skills across the two curricula.

In the CBSE textbook, a total of 361 Life Skills items are identified in the content, 105 in activities, and 205 in the question sections with an overall total of 671 Life Skills items.

Critical Thinking Skills emerge as the most represented skill followed by Creative Thinking and Problem Solving Skills. This demonstrates a strong emphasis on cognitive flexibility, innovation and solution-oriented learning. Other important skills and domains are underrepresented in the textbook. Notably, activity-based skill items are substantial, reflecting a meaningful integration of experiential and participatory learning, which promotes the practical application of skills and engagement in real-world contexts.

In the MBSE textbook, it contains 271 Life Skills items in the content, 18 in activities, and 239 in the question sections with an overall total of 528 Life Skills items highlighting a more limited overall integration of Life Skills.

Critical Thinking Skills is the highest represented skill while Empathy ranks second, indicating a slightly greater focus on social-emotional learning relative to other

skills. However, several essential skills and domains remain underrepresented. The activity-based component is minimal suggesting a curriculum heavily skewed toward content delivery and assessment rather than hands-on or experiential learning. The distribution of skills is uneven, with content and questions dominating, which limits opportunities for learners to practice and internalize Life Skills.

Thus, CBSE shows a more balanced integration of Life Skills across content, activities and questions, supporting holistic development. MBSE, though strong in critical thinking and problem-solving, underrepresents social-emotional skills and experiential learning, limiting well-rounded growth. To align with NEP 2020, MBSE needs more activity-based learning and better integration of emotional and social skills, while CBSE should enhance underrepresented skills and deepen exercises for meaningful engagement.

2. Life Skills Integration in CBSE Vs MBSE Class – IX Maths Textbook

CBSE and MBSE Class IX Mathematics textbooks highlights their shared emphasis on developing cognitive skills, particularly problem-solving and critical thinking while revealing notable differences in the integration of social-emotional learning and activity-based pedagogy. MBSE focuses on providing students with a strong conceptual foundation and higher-order thinking skills through clear theoretical explanations, practical examples and varied exercises with a bilingual presentation supporting NEP 2020's vision of multilingual learning. Similarly, the CBSE textbook guides students from middle school to more advanced mathematical concepts, linking previous learning while emphasizing analytical reasoning and problem-solving across chapters.

In terms of Life Skills integration, the CBSE textbook identifies 163 items in the content, 1 item in activities, and 174 items in questions reflecting a total of 338 Life Skills instances.

Problem solving skills shows as the most represented skill followed by Critical Thinking. This demonstrates a strong emphasis on cognitive flexibility, innovation and solution-oriented learning.

The MBSE textbook shows a higher overall count with 328 items in content, 2 items in activities, and 515 items in questions, totaling 845 Life Skills items. In both textbooks, problem-solving is the most extensively represented skill, followed by critical thinking. Other essential skills and domains are significantly underrepresented in CBSE and MBSE; but MBSE textbook shows even broader gaps in social and emotional skills, indicating a curriculum heavily skewed toward cognitive development.

Activity-based skill items are minimal in CBSE and almost absent in MBSE, resulting in a largely passive learning experience, especially for MBSE students. While CBSE offers limited hands-on and collaborative learning, both textbooks rely heavily on content and questions, restricting opportunities for practical application and experiential learning.

In alignment with NEP 2020, both textbooks strongly support cognitive skills. CBSE moderately addresses emotional and social learning, offering a somewhat balanced approach, whereas MBSE focuses narrowly on critical thinking and problem-solving with minimal emphasis on interpersonal, emotional and creative skills.

Overall, both textbooks effectively develop higher-order thinking but fall short in integrating social-emotional skills and activity-based learning. Expanding SEL, increasing experiential activities, and ensuring balanced life skills distribution would better support NEP 2020, promoting holistic development and preparing learners to be academically competent, emotionally intelligent and socially responsible.

3. Life Skills Integration in CBSE Vs MBSE Class – IX Science Textbook

CBSE and MBSE Class IX Science textbooks both serve as key resources for building a strong scientific foundation, connecting content to real-life experiences. The CBSE textbook emphasizes a content-rich and activity-based approach, combining theoretical explanations with practical applications to foster active participation and inquiry. A total of 187 Life Skills items were identified in the content, 101 in activities, and 240 in the question section with an overall total of 528 Life Skills items. Under Thinking Skills, Critical Thinking skills is most prominently represented followed by Problem-Solving, reflecting a strong focus on developing analytical, reasoning and cognitive abilities essential for scientific learning. The structured activities across chapters promote experiential learning and help students apply theoretical knowledge in practical contexts.

In comparison, the MBSE textbook contains 147 Life Skills items in the content, 31 in activities, and 426 in the question section with an overall total of 604 Life Skills items. It adopts a more conceptual and theoretical approach prioritizing Thinking Skills, especially Critical Thinking skills as the dominant skills which is followed by Problem-Solving, while other essential Life Skills are underrepresented. The MBSE textbook includes minimal and inconsistent activity-based elements, limiting opportunities for hands-on, collaborative and inquiry-based learning.

Both textbooks strongly support NEP 2020 in cognitive skill development focusing on problem-solving, critical thinking and creativity. However, they minimally address emotional and social skills, leaving gaps in empathy, teamwork, self-awareness and communication. Life skills distribution is uneven; CBSE has a slightly better spread due to structured activities, while MBSE shows patchy coverage with some skills absent.

Overall, CBSE offers a more balanced and engaging approach through substantial activity-based learning, enabling practical application of concepts. MBSE, though strong cognitively, is largely theoretical with minimal activities. Both have moderate holistic

development potential, but enhancing social-emotional skills, activity-based learning and balanced skill distribution is essential to fully align with NEP 2020's vision of nurturing academically, socially and emotionally competent learners.

4. Life Skills Integration in CBSE Vs MBSE Class – X Social Science Textbook

Class X Social Science textbooks of CBSE and MBSE both provide comprehensive and structured content aimed at building strong academic foundations while fostering essential Life Skills. In terms of Life Skills integration, the CBSE textbook identifies a total of 395 items in content, 64 items in activities, and 265 items in the question section with the overall total of 724 Life Skills items whereas the MBSE textbook includes 351 items in content, 12 items in activities, and 318 items in questions with 681 overall total skills. Both textbooks place a strong emphasis on cognitive skills, particularly Critical Thinking as the highest represented skills and reflecting NEP 2020's focus on inquiry-based and higher-order thinking. CBSE highlights Creative Thinking as the second most prominent skill, encouraging exploration and imaginative problem-solving, while MBSE prioritizes Problem-Solving reflecting an application-oriented approach.

Both textbooks show minimal alignment with emotional and social learning. CBSE includes some decision-making, self-awareness, communication and interpersonal skills but coverage is uneven. MBSE provides even fewer opportunities for developing emotional intelligence and interpersonal skills, indicating a strong cognitive focus at the expense of holistic learning.

Activity-based skill integration further differs. CBSE offers moderate activities for practicing skills, though not enough for full experiential learning. MBSE has very limited activities, restricting hands-on and collaborative experiences. Life skills distribution is uneven in both, with CBSE slightly broader but still imbalanced and MBSE narrower and more restricted.

Overall, both textbooks effectively promote cognitive skills like critical thinking, creative thinking and problem-solving aligning with NEP 2020's emphasis on analytical

learning. CBSE shows greater promise with more inclusive coverage and experiential opportunities, while MBSE's narrow focus limits potential. Strengthening SEL and activity-based learning in both would better align them with NEP 2020, fostering academically competent, socially responsible, and emotionally intelligent learners.

5. Life Skills Integration in CBSE Vs MBSE Class – X Maths Textbook

CBSE and MBSE Class X Mathematics textbooks focus on developing students' mathematical foundations through logical reasoning and problem-solving, aligning strongly with NEP 2020's emphasis on cognitive and analytical skill development. Problem-solving emerges as the most represented Life Skill in both textbooks, followed by critical thinking skills highlighting a shared priority on analytical reasoning and higher-order cognitive skills. The CBSE textbook identifies 482 Life Skills items in which 198 items are identified from content, 10 items from activities, and 274 items from questions while MBSE contains 1,017 items with 351 items are identified in content, 10 items in activities, and 656 items in questions. This indicates MBSE includes a larger volume of Life Skills content, although it is heavily concentrated in problem-solving tasks.

Both textbooks focus on cognitive skills but underrepresent emotional and social competencies. Skills like decision-making, self-awareness, interpersonal relationships, communication, coping with stress and empathy are minimal, with MBSE covering these even less. As a result, students may excel in mathematical reasoning but lack social and emotional development.

Activity-based Life Skill integration differs notably. CBSE provides moderate activities for active learning and practical application, while MBSE offers minimal opportunities, making learning largely theoretical. Life skills distribution is uneven, with CBSE showing slightly more diversity and MBSE dominated by problem-solving, creating a narrow learning experience.

For holistic development, CBSE shows moderate potential with a more balanced cognitive focus and some activity-based engagement. MBSE has weak potential due to its

narrow focus and minimal activities. Both support cognitive growth per NEP 2020 but need better integration of social-emotional skills and structured activities to prepare learners to be academically capable, socially responsible and emotionally intelligent.

6. Life Skills Integration in CBSE Vs MBSE Class – X Science Textbook

CBSE and MBSE Class X Science textbooks focus on building strong scientific foundations linked to real-life situations. CBSE identifies 197 Life Skills items in content, 90 in activities, and 186 in questions with an overall total of 473 Life Skills items while MBSE records 152 in content, 13 in activities, and 390 in questions with an overall total of 555 Life Skills items. Critical thinking and problem-solving dominate both textbooks, reflecting strong cognitive alignment with NEP 2020.

Both textbooks underrepresent emotional and social skills. Empathy, communication, self-awareness, and coping with stress receive minimal attention with MBSE narrower in coverage. This focus on cognitive skills limits opportunities for developing social intelligence, emotional resilience and holistic growth.

Activity-based integration differentiates the textbooks. CBSE includes substantial activities that support experiential learning, collaboration, and practical application. MBSE has minimal activities, making learning mostly theoretical and less interactive. Skill distribution is uneven, with CBSE slightly better balanced and MBSE heavily skewed toward problem-solving.

Overall, both textbooks have moderate potential for holistic development. CBSE offers broader skill coverage and structured activities, supporting cognitive growth with some exposure to life skills. MBSE, despite many identified items, lacks practical engagement and emotional-social skill inclusion. Strengthening social-emotional learning and activity-based practices would better align both textbooks with NEP 2020, fostering academically competent, socially responsible and emotionally intelligent learners.

FINDINGS RELATED TO OBJECTIVE 5 : Studying the Perception of the Secondary School Teacher on Life Skills

1.Overall Levels of Secondary School Teacher (CBSE&MBSE) Perception towards

WHO Life Skill: For the overall levels of the teachers from both MBSE & CBSE school, 38.55% comes under Average category which is majority, this is followed by 25.30% which falls under the category of Below Average. This is followed by Above Average with 19.27% expressed from the findings. Furthermore, other categories like Extremely High, High, Low and Extremely Low follow and comes after with a fewer percentage like 7.22%, 2.41%, 7.22% and 1.2% respectively.

- a) Communication Skills:** Under this skill, 39.75% of the secondary school teachers in Mizoram have average communication skills which is the highest score under this skills, 16.86% are under Below Average and Low category, 13.25% comes under Above Average, 10.84% comes under High category and 2.41% are under Extremely High range.
- b) Collaboration Skills:** Under this skill, 40.96% falls under Average category forming the highest group, 20.48% falls under Above Average section, 18.07% comes under Below Average category, 9.64% comes under High category, 7.23% comes under Low category, 2.41% are under Extremely Low and 1.20% are under Extremely High category.
- c) Creative Skills:** Under this skill, 46.98% falls under Average category which is majority in number, 20.48% comes under Below Average section, 10.84% falls under Low category, 9.64% comes under Above Average category, 7.23% comes under High category, 3.61% comes under Extremely High category and 1.20% falls under Extremely Low category.
- d) Critical Skills :** Under this skill, 38.55% falls under Average category forming the highest number, 22.89% comes under Above Average and Below Average forming

similar portion, 4.82% comes under Extremely High and Low category, 3.61% falls under High category and 2.41% comes under Extremely Low section.

The findings reveal that most secondary school teachers from both CBSE and MBSE boards possess an average level of WHO Life Skills, particularly in communication, collaboration, creativity and critical thinking. A smaller percentage of teachers exhibit high or extremely high proficiency, indicating the need for targeted professional development to enhance Life Skill competencies among educators.

2. Secondary School Teachers' Perception Towards Life Skills of Mizoram with reference to Board (CBSE & MBSE) : Based on the results, CBSE teachers scored higher (Mean = 211.21) than MBSE teachers (Mean = 196.12), with a t-value of 3.615, which is significant at the 0.05 level. This suggests that CBSE teachers possess a stronger and more comprehensive perception of Life Skills than their MBSE counterparts, possibly due to differences in curriculum design, professional training opportunities and institutional support available within the institution.

a) Communication skills : CBSE teachers recorded a higher mean score of 50.65 compared to MBSE teachers with a mean score of 48.45. However, the t-value of 1.715 indicates that this difference is not statistically significant. This suggests that the teachers' communication skills are not significantly influenced by the type of Board they belong to.

b) Collaboration skills: CBSE teachers achieved a higher mean score of 45.94 compared to MBSE teachers with a mean score of 43.57. The t-value of 1.977, which is significant at the 0.05 level, indicates a meaningful difference between the two groups. This finding highlights the importance of collaborative skills among teachers in fostering effective teamwork and positive workplace relationships.

c) Creative skills: CBSE teachers scored higher with a mean of 53.29 compared to MBSE teachers, who scored a mean of 48.29. The t-value of 3.902, significant at the 0.01 level, indicates a statistically significant difference, suggesting that CBSE teachers demonstrate stronger creative abilities than their MBSE counterparts.

d) Critical skills: CBSE teachers scored higher with a mean of 61.32 compared to MBSE teachers, who had a mean of 55.82. The t-value of 3.730, significant at the 0.01 level, indicates a clear and statistically significant difference between the two groups.

The findings reveal that CBSE teachers possess a stronger perception of Life Skills than MBSE teachers, with significant differences observed in collaboration, creative and critical skills. However, communication skills show no significant variation. These results suggest that curriculum structure, training exposure and institutional support within CBSE schools contribute to more effective Life Skills development among teachers.

3. Secondary School Teachers Perception of Life Skills of Mizoram with Reference to Gender: Male teachers obtained a higher mean score of 205.23 compared to female teachers, who scored a mean of 198.47. However, the t-value of 1.537 indicates that this difference is not statistically significant. This suggests that gender does not play a major role in shaping the perception of secondary school teachers in Mizoram toward Life Skills. Both male and female teachers display relatively similar levels of awareness and understanding of Life Skills, indicating balanced perspectives across genders within the teaching profession.

4. Secondary School Teachers Perception of Life Skills of Mizoram with reference to District-wise: The results indicate that the obtained F-value of 0.123 with a corresponding p-value of 0.974 is far below the criterion F-value of 2.486, confirming that there is no significant difference at any level of significance. This suggests that teachers' perceptions of Life Skills do not vary notably across different districts of Mizoram. Regardless of whether they belong to MBSE or CBSE schools, teachers demonstrate similar levels of understanding and awareness of Life Skills, showing a uniform perception throughout the state's districts.

5. Secondary School Teachers Perception of Life Skills of Mizoram with reference to Educational Qualification: Postgraduate teachers achieved a higher mean score of 207.16 compared to undergraduate teachers with a mean score of 196.82. The t-value of

2.416, which is significant at the 0.05 level, indicates a meaningful difference between the two groups. This suggests that higher educational qualification positively influences teachers' perception of Life Skills, with postgraduate teachers demonstrating greater awareness and understanding than their undergraduate counterparts.

a) Communication Skills: Under this skill, undergraduate and postgraduate teachers displayed almost identical mean scores of 49.66 and 49.00, respectively. The t-value of 0.513 indicates no significant difference between the two groups, suggesting that educational qualification does not notably influence teachers' communication skills in this context.

b) Collaboration Skills: Under this skill, postgraduate teachers recorded a higher mean score of 45.59 compared to undergraduate teachers, who scored 43.36. However, the t-value of 1.886 indicates that this difference is not statistically significant, suggesting that educational qualification has little impact on teachers' ability to collaborate effectively with colleagues.

c) Creative Skills: Postgraduate teachers attained a higher mean score of 52.18 compared to undergraduate teachers, who scored 48.26. The t-value of 3.002, significant at the 0.01 level, indicates a statistically significant difference between the two groups. This suggests that higher educational qualification enhances teachers' creative skills and their ability to apply innovative approaches in teaching.

d) Critical Skill: Postgraduate teachers achieved a higher mean score of 59.73, while undergraduate teachers scored 56.21. The t-value of 2.309, significant at the 0.05 level, reveals a meaningful difference between the two groups. This indicates that postgraduate teachers demonstrate stronger critical thinking abilities, likely influenced by their advanced academic training and deeper analytical exposure.

The analysis shows that postgraduate teachers generally exhibit a stronger perception of Life Skills than undergraduate teachers, with significant differences observed in creative and critical skills. However, no significant differences were found in

communication and collaboration skills, indicating that educational qualification influences certain Life Skills more than others. Overall, higher academic attainment appears to enhance teachers' creativity and critical thinking, suggesting that advanced education contributes positively to their awareness, understanding and effective application of Life Skills in the teaching profession.

6. Secondary School Teachers of Mizoram with reference to Locality: The findings show that the calculated F-value of 0.181, along with a p-value of 0.834, is considerably lower than the criterion F-value of 3.111. This clearly indicates that there is no statistically significant difference in the perception of Life Skills among secondary school teachers in Mizoram based on their locality. Whether teachers belong to urban, rural or semi-urban areas, their understanding and awareness of Life Skills remain consistent, suggesting that locality does not influence their perceptions in any meaningful way.

FINDINGS RELATED TO OBJECTIVE 6 : Studying the Awareness Level of Secondary School Students Towards Life Skills

1.Overall Levels of Secondary School Students (MBSE&CBSE) towards WHO Life Skill: For the overall level of secondary school students of Mizoram, 79.29% students stood under Average category which is followed by 11.14% which comes under Low category and 9.57% comes under High category.

Critical thinking skill: 79.59% falls under Average section, 12.23% falls under High category and 8.19% falls under Low category.

Creative thinking skill: 81.26% falls under Average category, 10.65% comes under High category and 8.09% comes under Low category.

Problem solving skill: 76.63% falls under Average category, 13.02% comes under Low category and 10.36% comes under High category.

Self-awareness skill: 84.71% comes under Average category, 12.13% comes under Low category and 3.16% comes under High category.

Decision making skill: 82.05% comes under Average section, 11.54% comes under Low category and 6.41% falls under High category.

Inter personal relationship skill: 84.02% comes under Average section, 9.47% comes under High category and 6.51% comes under Low category.

Effective communication skill: 80.18% falls under Average section, 11.24% comes under High category and 8.58% comes under Low category.

Coping with emotions: 86.49% falls under Average section, 8.97% falls under Low category and 4.54% falls under High category.

Coping with stress: 84.81% comes from Average section, 8.18% falls under High category and 7% falls under Low category.

Empathy: 79.68% comes under Average section, 10.55% fall under High category and 9.76% fall under Low category.

2. Life Skills Awareness of Secondary School student of Mizoram with Reference to Class (Class IX & Class X) : The study reveals that Class X students in Mizoram achieved a higher mean score of 141.55 compared to Class IX students, who scored 136.31. The t-value of 5.670 indicates a statistically significant difference between the two groups at the 0.01 level. This suggests that senior students possess greater awareness of Life Skills, possibly due to increased exposure, experience and maturity, highlighting the progressive development of Life Skills as students advance from Class IX to Class X.

Thinking skills : Under this skill, Class IX and Class X students recorded similar mean scores of 68.88 and 68.07, respectively. The t-value of 1.435 indicates that this difference is not statistically significant, suggesting that students' thinking skills remain nearly the same across these two classes.

Social skills: Under this skill, Class IX and Class X students showed only a small difference in mean scores, with Class IX at 24.76 and Class X at 25.05. The calculated t-

value of 1.107 suggests that this difference is not statistically significant, indicating that both classes demonstrate similar levels of social skills without any meaningful variation between them.

Emotional skills: Under this skill, Class IX students scored higher, with a mean of 42.82 compared to Class X students' mean of 41.86. The t-value of 2.763 indicates that this difference is statistically significant at the 0.01 level, showing that Class IX students demonstrate notably stronger emotional skills than their Class X counterparts.

The study indicates that Life Skills awareness among secondary school students in Mizoram improves from Class IX to Class X, with senior students showing significantly higher overall scores. Thinking and social skills, however, remain largely similar across both classes, showing no significant difference. Interestingly, Class IX students exhibit stronger emotional skills than Class X students, highlighting a unique variation. Overall, while awareness of Life Skills grows with class level, specific skills develop at different rates, reflecting a nuanced pattern in students' holistic development.

3.Life Skills Awareness of Secondary School student of Mizoram with Reference to Board (MBSE & CBSE): The study reveals that secondary school students in Mizoram following the CBSE curriculum demonstrate higher Life Skills awareness, with a mean score of 142.97, compared to MBSE students, who scored 136.94. The t-value of 5.851 indicates a statistically significant difference between the two groups at the 0.01 level. This suggests that CBSE students possess a notably greater understanding and awareness of Life Skills, which may be attributed to differences in curriculum design, teaching methods, exposure and opportunities for skill development between the two educational boards.

Thinking skill: CBSE students recorded a slightly higher mean score of 68.99 compared to MBSE students' 68.34. However, the t-value of 1.029 indicates that this difference is not statistically significant, suggesting that thinking skills are comparable among students of both boards, with no meaningful variation in their cognitive abilities.

Social skill: MBSE students scored a higher mean of 24.99 compared to CBSE students' 24.61. The t-value of 1.323 indicates a significant difference between the two groups in terms of social skills, highlighting variation in their abilities.

Emotional skill: CBSE students scored a higher mean of 45.63 compared to MBSE students' 41.21. With a t-value of 12.075, the results clearly indicate a significant difference at the 0.01 level in terms of emotional skills between the two groups.

In conclusion, CBSE students in Mizoram show significantly higher overall Life Skills awareness than MBSE students. This difference is mainly due to a large gap in emotional skills, where CBSE students perform much better. Their thinking skills, however are similar. Interestingly, MBSE students show slightly better social skills. This suggests that the CBSE curriculum may be more effective in developing key Life Skills, especially emotional understanding, which is crucial for a student's overall growth.

4. Life Skills Awareness of Secondary School student of Mizoram with Reference to Family: Based on this study, students in Mizoram from joint families scored an average of 140.67 in Life Skills, which is higher than the average score of 137.51 for students from nuclear families. The statistical analysis confirms this is a significant difference at 0.01 level. This suggests that the joint family environment, potentially offering more interaction and support, provides a better setting for developing essential Life Skills compared to a nuclear family structure.

Thinking skill: The study found that students from joint families in Mizoram scored 69.06 which is slightly higher than the mean score of 68.25 for students from nuclear families. However, this small difference is not statistically significant.

Social skill: The social skills of students from nuclear and joint families are very similar. Nuclear family students scored 24.91 on average, while joint family students scored 24.83. This tiny difference is statistically insignificant, as shown by the low t-value 0.276.

Emotional skill: The study reveals that for emotional skills, students from joint families have a slightly higher mean score (42.58) than those from nuclear families (42.31). However, this minor difference is not statistically significant. The analysis confirms that there is no real gap in emotional skills between the two groups, meaning their abilities in this area are effectively the same.

In conclusion, students from joint families in Mizoram show significantly higher overall Life Skills awareness than those from nuclear families. However, when looking at individual skills, this advantage is not consistent. While their thinking, social and emotional skills are statistically similar to their nuclear family peers, the combined effect results in a meaningful overall benefit. This suggests the joint family environment provides a general advantage for holistic Life Skills development rather than boosting any single specific skill.

5. Life Skills Awareness of Secondary School students of Mizoram with Reference to

Gender: Based on the study, there is a minor difference in Life Skills awareness between male and female secondary school students in Mizoram. Males recorded a slightly higher mean score of 139.07, compared to the female average of 138.17 with a t-value of 0.971. However, statistical analysis confirms that this small gap is not significant. This means that there is no meaningful difference in the overall Life Skills awareness between male and female students; their abilities in this area are effectively equal.

6. Life Skills Awareness of Secondary School student of Mizoram with Reference to

Locality: The study shows urban students have a slightly higher average Life Skills score (139.10) than rural students (138.07). However, this small difference is not statistically significant, meaning there is no real gap in Life Skills awareness based on a student's locality.

7. Life Skills Awareness of Secondary School student of Mizoram with Reference to

Economical Status of Family: The analysis from ANOVA shows that there is no statistically significant difference in Life Skills awareness based on the economic status of

students families. The key indicator is the p-value of 0.242, which is greater than the common significance level of 0.05 with F-value 1.420. Therefore, a student's economic background does not appear to be a major factor influencing their Life Skills awareness in this study.

8. Life Skills Awareness of Secondary School student of Mizoram with Reference to Parental Education: The analysis from ANOVA indicates that there is no statistically significant difference in students' Life Skills awareness based on their parents' education level. The key finding is the p-value of 0.092 and F-value 2.004. Since the value is greater than the standard significance level of 0.05, the differences in average scores between the groups are not large enough to be considered meaningful. In other words, parental education does not appear to have a significant impact on students' Life skills awareness in this study.

9. Life Skills Awareness of Secondary School student of Mizoram with Reference to District – wise: Based on the ANOVA results, there is a highly significant difference in Life Skills awareness among students from different districts in Mizoram. The key evidence is the p-value of 0.001, which is far below the standard 0.05 threshold for significance. This means the district where a student lives is a major factor linked to their Life Skills scores. The variation in scores between districts is much greater than the variation within them, confirming that location has a substantial impact. For finding the deviated district which make a difference, Post Hoc (Games Howell) is applied further:

The analysis reveals a significant district-wise gap in Life Skills awareness. Aizawl district has the highest level, followed by Lunglei, Champhai, Kolasib, and Mamit, which ranks the lowest. This disparity is both statistically and practically meaningful. Interviews confirm that Life Skills are not widely integrated into teaching due to time constraints. Teachers are pressured to prioritize exam-oriented, textbook-based instruction, as board results are the primary metric used by outsiders to judge a school's performance.

FINDINGS RELATED TO OBJECTIVE 7 : To Study Activities Implemented in the Secondary School of Mizoram (Interview with Headmaster)

Based on interviews with 12 headmasters in Mizoram, a clear consensus emerges on the importance of Life Skills education for students' holistic development. While all respondents were aware of it, many highlighted specific skills like self-awareness, creative thinking, problem-solving and communication as being particularly crucial for adolescents. A major and repeated challenge across nearly all schools is the systematic integration of these skills into daily classroom teaching. Headmasters consistently cited a lack of time and immense pressure to complete the syllabus as the primary barriers. As one headmaster stated, "We genuinely want to use interactive sessions... but we are limited by the length of the class period." This forces a heavy reliance on "textbook-based and exam-oriented instruction," because "board results are the thing that matter most" for external evaluation. To compensate for this classroom limitation, schools universally turn to extracurricular activities. Social service, particularly community cleaning, is a cornerstone activity in most schools, aimed at teaching teamwork and responsibility. Annual sports events, field trips, and clubs like ECO and NCC are also widely used to foster skills like leadership, collaboration, and resilience indirectly.

Formal Life Skills programmes, however, are inconsistent. Some schools have conducted sessions with external experts from regional centres, while others rely on internally-led initiatives like orientation programs. Crucially, many headmasters noted that these efforts are often not explicitly labeled "Life Skills" and a few schools admitted to not having any dedicated programme at all. In essence, a significant gap exists between the recognized value of Life Skills and their structured implementation. The academic system's focus on board exams sidelines classroom integration, leaving extracurricular activities as the primary, though unstandardized, channel for developing these essential competencies.

DISCUSSIONS

1. Discussions for Objective 1,2,3 and 4

A detailed analysis of Class IX and X textbooks in Social Science, Mathematics, and Science from both CBSE and MBSE reveals a clear pattern in Life Skills integration. The textbooks overwhelmingly emphasize higher-order cognitive skills, particularly Critical Thinking and Problem Solving, while social, emotional and practical learning skills receive much less attention. This focus aligns with the goals of the National Education Policy (NEP, 2020, p. 12), which encourages the development of critical thinking and problem-solving abilities from an early age. Several studies corroborate this emphasis, showing that thinking skills, especially critical thinking and problem solving, are central to effective teaching and curriculum design (Brookhart, 2010; Abrami et al., 2015; Wagner, 2010; Savery, 2006; Facione, 2015; Lalbiakfeli & Vemula, 2024; Rothman, 2016).

In Social Science, Critical Thinking is prioritized, enabling students to analyze historical events, interpret geographical data, understand political concepts and reason through economic issues, fostering inquiry and evidence-based reasoning (Fuentes-Moreno et al., 2020; Svyrydenko & Revin, 2024). Science textbooks also place strong emphasis on Critical Thinking, with students engaging in experimental design, hypothesis testing, data interpretation, and evaluation of scientific arguments, promoting scientific reasoning over rote memorization (Forawi, 2016; Vieira & Tenreiro-Vieira, 2016; Holmes, Wieman, & Bonn, 2015; Rowe et al., 2015; Singh & Yaduvanshi, 2015). In Mathematics, Problem Solving dominates, requiring students to apply logical reasoning, strategic planning, and conceptual understanding to structured and unstructured problems, often extending to real-world or novel situations (Jäder et al., 2020; Wijaya, 2015; Vicente et al., 2022; Fan & Zhu, 2000; Jamil et al., 2024; Oktafianto et al., 2019). Analyses of textbooks globally show that a significant portion of tasks encourages students to construct solutions and apply reasoning rather than follow templates.

Despite the strong cognitive focus, social-emotional learning (SEL) skills such as Self-Awareness, Empathy, Effective Communication, Interpersonal Relationships, Coping with Stress, and Coping with Emotions are largely underrepresented (Majadly & Yahya, 2024; Uşaklı, 2017; Annisah et al., 2023; Sibbo et al., 2024; Elias, 2014; Martinez & Gomez, 2024; Mahoney et al., 2024; Cipriano, 2023). While CBSE occasionally integrates Creative Thinking and Stress Management in Social Science, MBSE gives minimal attention to these skills. This imbalance is concerning because SEL is essential for fostering emotional regulation, empathy, teamwork, and preparing students for real-life challenges (Nava et al., 2023, p. 45; Hachem et al., 2022).

The textbooks' Activity sections are also weak, often missing, poorly designed, or too brief to support experiential learning (Jamil et al., 2024; Jamil & Hassan, 2024; Ferreira, 2021; Pherson-Geyser et al., 2020; Shukla & Singh, 2019). This limits opportunities for students to develop practical skills, creativity, and collaboration, with MBSE particularly focusing on content-heavy, exam-driven approaches. According to WHO, ten core Life Skills including critical thinking, creative thinking, problem solving, self-awareness, decision-making, interpersonal skills, effective communication, coping with stress, coping with emotions and empathy should be systematically integrated throughout the curriculum to promote psychosocial competence and prepare students for real-life challenges (Salunke & Lashkari, 2020).

When compared with these guidelines, CBSE and MBSE textbooks show a clear cognitive bias. While CBSE incorporates some creative thinking and stress management, MBSE gives minimal attention to SEL skills, particularly in Social Science. Most other Life Skills, such as self-awareness, communication, interpersonal skills, coping with emotions and decision-making, are largely missing, especially in activity sections (Jamil et al., 2024; S. A. & Saxena, 2024; Salunke & Lashkari, 2020). NEP 2020 emphasizes moving beyond rote learning toward fostering critical thinking, problem-solving, creativity, adaptability, and multidisciplinary approaches, while remaining grounded in the Indian context (NEP, 2020).

Overall, the textbooks systematically embed cognitive skills, aligning with NEP 2020's analytical and academic goals. However, the underrepresentation of social-emotional learning and the weak implementation of activity-based, experiential learning create a lopsided curriculum. To fully realize NEP 2020's vision of holistic, competency-based education, both CBSE and MBSE need to strategically integrate SEL and practical skills into content, exercises and activities. Without this balance, students risk becoming adept thinkers but lack the emotional intelligence and practical competencies necessary to navigate the complexities of the 21st century (Martinez & Gomez, 2024; Mahoney et al., 2024; Cipriano, 2023).

2. Discussions for Objective 5,6 and 7

The major findings of the present study are outlined below, along with possible explanations for them.

(i) The analysis of Life Skill levels among secondary school teachers in Mizoram shows that majority demonstrate moderate overall Life Skills.

Discussion : Consistent with the current study, previous research by Kaur and Singh (2021), the National Council for Teacher Education (2019), Desai and Choudhury (2022), Gupta and Mehra (2020), and Joshi and Patel (2018) reported similar findings, supporting the results observed in this study.

The majority of secondary school teachers demonstrate moderate overall Life Skills due to a combination of professional experience, training and exposure to classroom challenges. While teachers regularly engage in activities that develop communication, problem-solving and decision-making abilities, many have limited opportunities for structured Life Skills training or professional development focused specifically on these competencies. Additionally, heavy workload, curriculum pressures and administrative responsibilities may restrict the time and energy teachers can devote to consciously enhancing their interpersonal, emotional, and leadership skills. As a result, most teachers

reach a moderate level, reflecting practical experience but not full mastery of all Life Skills.

(ii) CBSE teachers demonstrate stronger Life Skills than their MBSE counterparts.

Discussion : In line with the present study some findings from Tiwari, P. (2020); Behrani, P. (2016); S, A., & Saxena, L. (2024) also found a similar results regarding this issues.

CBSE teachers are likely to demonstrate stronger Life Skills than their MBSE counterparts because of differences in training, exposure, and pedagogical practices. CBSE places greater emphasis on holistic education, regularly organizing workshops, seminars and professional development programmes that integrate Life Skills with classroom teaching. Teachers are encouraged to adopt interactive methods such as group discussions, role-play, project work and ICT-based activities, which naturally nurture communication, critical thinking and problem-solving abilities. In contrast, MBSE teachers often operate within a more exam-driven environment, where the priority is completing the syllabus and preparing students for board examinations. Limited access to resources, fewer opportunities for capacity building, and a heavy reliance on traditional textbook-based teaching reduce the scope for integrating Life Skills into everyday practice. Consequently, while MBSE teachers may be aware of Life Skills, their practical application remains less pronounced compared to the structured and systematic approach adopted in CBSE schools.

(iii) Postgraduate teachers demonstrate stronger Life Skills compared to their undergraduate counterparts in Mizoram.

Discussion : The present findings is in line with the findings of Erden, H. (2019); Ermolaeva, M., & Ignateva, E. (2021); Sethi, A.et.al., (2018) found their results regarding the current findings.

Postgraduate teachers display stronger Life Skills than their undergraduate counterparts because advanced training equips them with deeper theoretical knowledge,

reflective practice and practical exposure. Through dissertations, seminars and research projects, they develop critical thinking, problem-solving, time management and communication abilities (Erden, 2019; Ermolaeva & Ignateva, 2021). Their qualifications also give them greater access to professional networks, in-service training, and leadership opportunities, allowing them to apply these skills in varied contexts. Such experiences foster adaptability, empathy, and decision-making capacities, which are less emphasized in undergraduate programmes. Consequently, postgraduate teachers exhibit greater confidence and a more learner-centred approach, reflecting stronger integration of Life Skills in practice.

(iv) Secondary students in Mizoram have average Life Skills, while the proportions of students with high and low Life Skills are relatively close to each other.

Discussion : The findings of the present study are consistent with those of Pandey and Pandey (2024), Subramaney and Andrade (2022), Cohen and Swerdlik (2018), and Lee and Choi (2021), who similarly reported that most students exhibit average levels of Life Skills.

Most secondary students possess average Life Skills, with the proportions of students exhibiting high and low levels being relatively similar. This pattern reflects the general stage of development in adolescence, during which students gradually acquire abilities such as communication, problem-solving, decision-making and emotional regulation, but have not yet fully mastered them (Steinberg, 2014). School environments, teaching practices, and curriculum design play a significant role in shaping these skills (WHO, 1997). Furthermore, research has shown that structured life skills education in schools can enhance self-efficacy, emotional regulation, and coping strategies, supporting the overall development of these competencies (Mohan & Sharma, 2021). In many cases, life skills education is incorporated in a limited or inconsistent manner, resulting in most students remaining at an intermediate level (WHO, 1997). Factors such as family support, peer influence, socio-economic background, and exposure to co-curricular activities further contribute to variations, which explains why the numbers of students with high

and low Life Skills are roughly comparable (Mohan & Sharma, 2021; Steinberg, 2014). Overall, this distribution highlights the need for targeted interventions and structured Life Skills programs to help students progress from average to higher levels of competency (Narvaez & Lapsley, 2016).

(v) A distinct difference in Life Skills among secondary school students in Mizoram across classes IX and X from both CBSE and MBSE boards, with Class X students demonstrating greater awareness of Life Skills compared to Class IX students.

Discussion : The current findings align with those of Kaur and Singh (2022), Steinberg (2017), Patil and Deshpande (2021), and Gupta and Mehrotra (2019), who also observed that Class X students perform better than Class IX students across various issues.

The observed difference in Life Skills between Class IX and Class X students can be attributed to several factors. Class X students have had an additional year of schooling, which provides more exposure to both formal and informal learning experiences that promote life skills such as communication, problem-solving, decision-making, and emotional regulation. They are more likely to have participated in co-curricular activities, workshops, and classroom interactions that reinforce these skills (Kaur & Singh, 2022; Patil & Deshpande, 2021). Additionally, the curriculum for higher classes often incorporates more opportunities for critical thinking, collaborative projects and applied learning, enabling students to practice and refine their abilities. Cognitive and emotional development also progresses with age, allowing Class X students to better understand and manage themselves and their relationships (Steinberg, 2017; Gupta & Mehrotra, 2019; Durlak et al., 2020). Collectively, these factors contribute to the higher awareness and proficiency in Life Skills observed among Class X students compared to those in Class IX.

(vi) Difference in Life Skills among secondary school students in Mizoram, with CBSE students displaying higher awareness of Life Skills than MBSE students.

Discussion : Consistent with the current study, other relevant research by Nanda and Dash (2021), Reddy and P. K. (2019), Sharma and Gupta (2022), and Khan and Choudhury (2020) also reported similar findings in their studies.

The difference in Life Skills between CBSE and MBSE board secondary school students can be attributed to variations in curriculum design, teaching methodologies, and exposure to skill-based learning. CBSE schools generally emphasize holistic development alongside academic learning, integrating Life skills into classroom activities, co-curricular programs and assessments. Students are frequently engaged in group discussions, projects, role-plays and problem-solving exercises that foster communication, critical thinking, decision-making and emotional regulation. In contrast, many state board schools follow a more exam-oriented approach, focusing heavily on textbook content and rote learning, which limits opportunities for practicing and developing Life Skills (Nanda & Dash, 2021; Reddy & P. K., 2019; Sharma & Gupta, 2022; Khan & Choudhury, 2020). Additionally, CBSE students often have access to better resources, teacher training, and exposure to workshops or seminars that emphasize life skills, giving them a practical edge (Jain & Deshpande, 2018; Patil & Deshpande, 2021). Collectively, these structural and pedagogical differences contribute to the higher awareness and application of Life Skills among CBSE students compared to their state board counterparts.

(vii) Difference in Life Skills awareness between secondary school students from nuclear and joint families, with students from joint families performing better than those from nuclear families.

Discussion : Consistent with the current findings, previous studies by Desai and Dubey (2012), Shreeniwas (1999), Chawla and Sandhu (2020), Chadda and Deb (2013), and Ranganathan (2018) have reported similar patterns and results, providing further justification for the present study.

Students from joint families often perform better in Life Skills compared to those from nuclear families due to the richer social environment and greater exposure to interpersonal interactions. In a joint family, children grow up observing and participating in the daily functioning of a larger household, which includes multiple adults and siblings. This environment naturally provides opportunities to develop communication, empathy, cooperation, conflict resolution and decision-making skills. Children learn to negotiate, share responsibilities and manage relationships with diverse personalities, fostering emotional intelligence and social competence (Chadda & Deb, 2013; Chawla & Sandhu, 2020; Ranganathan, 2018). In contrast, students from nuclear families have fewer day-to-day interactions beyond parents and possibly one sibling, which may limit their opportunities to practice and refine these skills. Furthermore, joint families often offer more guidance, mentorship, and support from extended family members, helping children navigate challenges effectively (Desai & Dubey, 2012; Shreeniwas, 1999). Collectively, these factors contribute to stronger Life Skills among students from joint families, giving them an advantage over their nuclear family counterparts.

(viii) Significant difference in Life Skills awareness among secondary school students across different districts in Mizoram.

Discussion : The findings of the present study are consistent with those of Kingdon (2017), Jha and Jhingran (2005), Singh and Nath (2021), Drèze and Kingdon (2001), and Bhattacharjea and Ramanujan (2019), who also reported similar results in their research.

The significant disparity in Life Skills awareness between Mamit district and other districts in Mizoram can be attributed to a combination of geographical, socioeconomic, and infrastructural factors. Mamit, being a more remote and rural district, likely faces challenges related to accessibility and resource allocation that impact educational quality. Schools in such areas often have limited access to trained teachers, modern teaching materials, and opportunities for co-curricular activities that are crucial for developing Life Skills. In contrast, districts like Aizawl, the state capital, benefit from greater urbanization, better educational infrastructure, and more exposure to diverse learning environments.

Furthermore, socioeconomic conditions, including parental literacy and community engagement in education, tend to be more favorable in developed districts, providing students with a supportive ecosystem for holistic development. These structural inequalities create an environment where students in less developed districts like Mamit have fewer opportunities to cultivate Life Skills compared to their peers in more advantaged regions.

(ix) Studying the different activities implemented in the Secondary school of Mizoram.

In order to identify and know the true applications of Life Skills in school, the researcher has organized a semi structure interview with the Headmasters' of each school visited. Thus, the comparison between State Government and CBSE schools reveals marked differences in the awareness, implementation and prioritization of Life Skills education. In State Government schools, headmasters are aware of Life Skills but often view them as secondary to board exam performance, a perspective that is reflected in the predominantly textbook-based and exam-oriented teaching approach (Kumar & Singh, 2019). This prioritization is compounded by significant systemic barriers, including time constraints, limited resources and a lack of ICT tools or structured training for teachers, which further restrict the effective integration of Life Skills into the curriculum (National Council of Educational Research and Training NCERT, 2020). While co-curricular activities such as social service, cleaning drives, annual sports, ECO clubs, NCC and occasional outings are conducted, research suggests they are often constrained by logistical challenges and are largely perceived as supplementary rather than as core components of holistic education (World Bank, 2018). Formal Life Skills programmes are rarely implemented and when present, are typically embedded within orientation sessions without explicit recognition. The focus in these schools tends to be on self-awareness, critical thinking, creative thinking and social service values.

In contrast, CBSE schools demonstrate high awareness of Life Skills, supported by structured teacher training and alignment with NEP 2020. Teachers actively use ICT, role-play, seminars, storytelling and other interactive methods to promote Life Skills.

Activities are diverse, including professionally coached sports, yoga, gardening, vocational training, excursions, and social service days. Formal Life Skills programmes are systematically implemented with support from regional centers and experts. CBSE schools emphasize communication, problem-solving, stress management, and adapt Life Skills to student needs, benefiting from better infrastructure and fewer time constraints, allowing holistic education to flourish.

5.2. Recommendation

The textbook analysis reveals a significant imbalance in Life Skills integration, with an overemphasis on Thinking Skills and a neglect of Social and Emotional Skills. The following recommendations are proposed for both MBSE and NCERT/ CBSE textbooks:

1. Achieve Balanced Skill Integration: Curriculum framers must ensure a deliberate and equitable representation of all ten WHO core Life Skills across all subjects. Specifically, Social Skills (Interpersonal Relationships, Effective Communication) and Emotional Skills (Empathy, Coping with Stress and Emotions, Self-Awareness) should be integrated with the same intentionality as Critical Thinking and Problem-Solving in both textbook.

2. Revitalize the 'Activity' Section: Transforming the activity sections from being barren or procedural into dynamic, experiential learning hubs. Activities should be designed to promote collaboration, role-playing, debates, project-based learning and real-world problem-solving that naturally foster social and emotional competencies.

3. Incorporate Real-Life Contexts and Case Studies: In subjects such as Mathematics and Science, problems and exercises should be designed around real-life contexts that encourage ethical reasoning, teamwork and emotional understanding, rather than focusing solely on abstract or procedural tasks. Similarly, in Social Science textbooks, particularly those of MBSE, incorporating more historical content related to Mizo culture and society could greatly enhance students' understanding of their heritage, broaden their perspectives and deepen their appreciation of cultural and societal dynamics.

4. Align Explicitly with NEP 2020's Holistic Vision: Textbook revisions must consciously align with the multidisciplinary and socio-emotional learning (SEL) goals of the National Education Policy 2020 in both textbook. This requires moving beyond a purely academic focus to explicitly include activities that build character, resilience and teamwork.

5. Design Reflective and Metacognitive Components: Incorporating prompts, reflective journals, and self-assessment questions at the end of chapters or activities can encourage students to think critically about their learning, emotions and decision-making, thereby enhancing self-awareness. Additionally, including a reference section either at the end of each chapter or at the conclusion of the textbook, rather than sporadically across books, can significantly benefit learners by providing consistent access to sources. This practice is particularly lacking in MBSE textbooks, where reference sections are generally absent, limiting students' ability to explore further reading and develop a habit of academic inquiry.

6. Enhance Visuals and Inclusive Design: Improve the quality of images, diagrams and layout to be more inclusive and engaging. Visuals should depict diverse situations that can spark discussions on empathy, diversity, and different perspectives in both textbook.

7. Provide Teacher Guidance Notes: Include supplementary notes or a teacher's handbook that suggests specific methodologies for facilitating Life Skills through the textbook content, helping teachers move beyond traditional lecture-based methods especially for MBSE teachers.

8. Introduce a Dedicated Life Skills Supplement or Textbook: For boards like MBSE, consider introducing a separate, graded textbook or a well-structured supplement focused exclusively on Life Skills education, which can be used alongside core subject textbooks to ensure guaranteed coverage.

5.3 Educational Implications of the Study

1. Need for Curriculum Rebalancing: The extreme imbalance in textbook content, with an overwhelming focus on Thinking Skills (Critical Thinking, Problem-Solving) and a severe neglect of Social and Emotional Skills (Empathy, Communication, Coping with Stress), necessitates an immediate and systematic revision of both CBSE and MBSE syllabi. Curriculum framers must ensure the equitable integration of all ten WHO core Life Skills across all subjects to align with the holistic vision of NEP 2020.

2. Revitalization of Pedagogical Practices: The heavy reliance on textbook-based, exam-oriented instruction, as reported by headmasters, must shift towards experiential and activity-based learning. Teacher training programs should focus on equipping educators with methodologies for role-playing, group discussions, project-based learning, and collaborative tasks that actively develop social and emotional competencies in the classroom.

3. Systematic Integration of Activities: The analysis reveals that the 'Activity' sections in textbooks are the weakest component, especially in MBSE books. Educational authorities should mandate the inclusion of structured, well-designed activities in every chapter that are not merely procedural but are explicitly linked to practicing and internalizing specific life skills.

4. Enhanced Teacher Training and Capacity Building: The significant difference in life skills perception between CBSE and MBSE teachers, and the advantage held by post-graduate teachers, highlights the critical role of professional development. Continuous, mandatory in-service training programs focused on Life Skills education, its importance, and practical classroom strategies are essential for all secondary school teachers, particularly those in state boards.

5. Addressing the Socio-Emotional Learning (SEL) Gap: The finding that students have only "average" awareness, with significant gaps in emotional skills like coping with emotions and stress, calls for the institutionalization of SEL. Schools should dedicate

specific time for SEL sessions, integrate reflective practices, and provide access to counseling services to support students' mental and emotional well-being.

6. Bridging the Inter-Board Disparity: The consistently higher performance of CBSE students and teachers indicates a systemic disparity. The MBSE should learn from the CBSE's more structured approach, including better resource allocation, structured teacher training modules, and a more balanced curriculum design, to ensure equitable quality of life skills education across all boards in Mizoram.

7. Leveraging Extracurricular Activities More Effectively: While schools conduct co-curricular activities, they are often not explicitly connected to Life Skills development. School administrators should consciously frame these activities (e.g., social service, sports, ECO club) as deliberate opportunities to practice teamwork, leadership, empathy, and responsibility, moving beyond their current supplementary status.

8. Policy-Driven Shift in Assessment Priorities: The headmasters' unanimous citation of "board exam pressure" as a barrier implies that assessment reforms are crucial especially at MBSE. Policymakers must explore ways to incorporate the assessment of Life Skills (e.g., through project work, portfolios, or behavioral observations) into the overall evaluation system to signal their importance and reduce the overemphasis on rote-learning.

9. Contextual and Resource-Specific Support for Schools: The challenges faced by state board schools, such as limited ICT infrastructure and resources, require targeted interventions. The government and educational departments should provide specific grants, resources, and context-specific teaching-learning materials to help these schools implement activity-based and interactive Life Skills education effectively.

10. Fostering School-Community Partnerships for Holistic Development: The finding that students from joint families showed better Life Skills awareness suggests the value of a supportive ecosystem. Schools should actively engage parents and the community through workshops and collaborative events to create a consistent environment that

reinforces the Life Skills being taught in school, thereby extending learning beyond the classroom.

5.4 Conclusion

The study conclusively reveals a significant gap between the policy vision of holistic education and its practical implementation in Mizoram's secondary schools. The analysis uncovers a critical imbalance in the curriculum, with textbooks overwhelmingly favoring cognitive skills like critical thinking and problem-solving, while severely neglecting essential social and emotional competencies such as empathy, communication, and stress management. This theoretical deficit is directly reflected in the students' predominantly average awareness of Life Skills and is exacerbated by an exam-centric system that forces teachers to prioritize rote learning over experiential pedagogy. The comparative advantage of CBSE over MBSE further highlights the impact of structured training and resource allocation. To truly fulfill the mandate of NEP 2020, an urgent, systemic reform is imperative, demanding a concerted effort to rebalance the curriculum, empower teachers with innovative pedagogical tools, and shift institutional priorities towards nurturing well-rounded, emotionally intelligent, and resilient individuals.

REFERENCES

- Abdi, M., Davoudi, R. (2015). Investigating the Relationship between Life Skills and Academic Achievement of High School Students. *Journal of Applied Environmental and Biological Sciences*. Vol. 5(3)47-51.
- Amer, M.B., Singha, K.G. (2023). The Life Skills Included in Secondary Stage English Language Textbooks in Jordan. *International Research Journal of Educational Research* Vol. 14(2) pp. 1-11.
- Ashraf, T., Abiodullah, M., Iqbal, M.Z. (2021). Analysis of Social Responsibility Skills with Reference to Life Skills in Secondary School Curriculum. *Pakistan Social Sciences*, Vol. 5, No. 4, pp:368-381

- Azizkhani, A., Niknam, M., Ahadi, H. (2022). A Content Analysis Exploring Life Skills Components in Elementary School Social Studies Textbooks. *Iranian Evolutionary and Educational Psychology Journal*. Vol. 4, No. 4, 32-41.
- Bano, S., Deebe, F. (2025). A Gender Based Analysis of Life Skills among Prospective Teachers in Universities of Pakistan, *Journal for Social Science*, Vol.3, Issue No.3.
- Chetri, K(2020). Life Skills Education for Adolescents: It's Needs and Strategies - Palarch's *Journal Of Archaeology Of Egypt/Egyptology*, Vol. 17, Issue. (7).
- Cipriano, C. et.al.(2023). The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based SEL interventions, *Child Development*, Vol. 94, pp : 1181–1204.
- Darlington-Bernard A,et.al.(2023). Defining Life Skills in health promotion at school: a scoping review. *Front Public Health*. Vol. 11.
- Defitrika, F., Mahmudah,F.N.(2021). Development Of Life Skills Education As Character Building. *International Journal of Educational Management and Innovation*, Vol.2, No.1, pp. 116~135.
- DeJaeghere, J., & Baxter, A. (2016). Reframing Life Skills: From an Individualistic to a Relational Transformative Approach , *Life skills education for youth: critical perspectives and cross-national case studies*, UC Berkeley Library-supported Open Access Books, ISBN 978-3-030-85214-6, Page- 73.
- Devi, J., Anuradha & Shweta (2024). A Study of the Life Skill of Higher Secondary School Student in Relation to Self-Concept. *International Journal of Indian Psychology*, Vol. 12(3), pp : 3322-3328.
- Durlak JA, et.al.(2011). The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. *Child Dev*, Vol.82(1):405-32.

- EKİZ, M.A (2025). Analysis of Life Skills of Students Studying in Hatay Mustafa Kemal University. *Asian Journal of Education and Social Studies*, Volume.51, Issue.8, pp : 49-61.
- Ering, M. et.al. (2024). Assessment and Enhancement of Life Skills among Higher Secondary Students in Tirap District of Arunachal Pradesh: A Gender Perspective, *International Journal of Teaching, Learning and Education (IJTLE)*, Vol-3, Issue-4.
- Giang, T. T., Khanh, M. Q., Hong, N. T. T., & Hoa, V. L. (2022). Life skills education capacity structure of teacher in the context of current education innovation. *International Journal of Social Sciences*, Vol. 5(2), pp:105-109.
- Giang, T. T., Khanh, M. Q., Hong, N. T. T., & Hoa, V. L. (2022). Designing skills for life skills education plan of pedagogical students in Vietnam. *International Research Journal of Management, IT and Social Sciences*, Vol.9(4), 421-429.
- Greenberg, M. (2023). Evidence for social and emotional learning in schools, Learning Policy Institute, <https://learningpolicyinstitute.org/product/evidence-social-emotional-learning-schools-brief>
- Gür, Y., Karaoğlu, M.F. (2022). Comparison of the effect of life skills education and acceptance and commitment on happiness and responsibility of physical education students. *African Educational Research Journal*, Issue 10(1), pp. S7-S14.
- Harikrishnan, U., Rajeev M. M., Sailo, G.L., Kaimal, A., Shanthi B. S. (2023). Life Skills Education For School Children In Aizawl, Mizoram: A Pre-Post Design. *Education and Society*. Vol-47, Issue-1, No.-8.
- Hvalby, L. et.al. (2024). Life Skills in Compulsory Education: A Systematic Scoping Review, *Education Sciences*, Vol. 14(10), 1112.

- Isaken, A.R.et.al. (2025). Life skills education as a balancing act: Preparing students to handle life challenges in upper secondary English and social science classrooms, *Teaching and Teacher Education*, Volume 159.
- Itute, N. et.al. (2023). The Influence of Training of Teachers in Life Skills Education on Implementation of Life Skills Curriculum in Public Secondary Schools In Kenya, *The International Journal of Engineering and Science (IJES)*, Volume 12, Issue 9, Pages PP 08-13.
- Karamadi, M.A., Aminabhavi, V.A. (2015). Impact of Medium of Instruction on Life Skills of school students, *Indian Journal of Mental Health*, Vol. 2(3), pp : 254-262.
- Kaur, J & Kaur, M.(2022). A Life Skills Intervention for Enhancing Psychological Well-Being of Secondary School Students, *MIER Journal of Educational Studies Trends & Practices*, Vol. 12(2), 285–300.
- Kirchhoff, E., & Keller, R. (2021). Age-specific life skills education in school: A systematic review, *Front. Educ.* Vol. 12, 6:660878. doi: 10.3389/feduc.2021.660878
- Lalbiakfeli, L.K., Vemula, M.(2024). Unraveling the Layers: A Comprehensive Analysis of MBSE Secondary Science Curriculum with a Focus on Life Skills Integration. *Library Progress International*, Vol. 44(3),2942-2955.
- Lenzen, B.; Buyck, Y.;Bouvier, A. Teaching Life Skills in Physical Education within Different Teaching Traditions: A Narrative Review. *Educ. Sci*, Vol. 13, 605.
- Madhavi, R.L. (2023). Life Skills Education In Secondary Schools Of Vadodara City," *Working papers 2023-46-03, Voice of Research*.
- Mahanta, P et.al.(2024). A Study on Life Skills among Adolescents Attending Government Schools. *Indian Journal of Psychiatric Nursing*, Vol. 21(1):p 17-21.

- Malathi, S.(2022). Awareness on Life Skill Education for Employment Opportunity among Prospective Teachers. Shanlax International Journal of Arts, Science and Humanities, Vol. 10, pp-2582-0397. DOI:<https://doi.org/10.34293/sijash.v10iS1-5777>
- Masri, A.A., Smadi, M., Aqel, A., Hamed, W. (2016). The Inclusion of Life Skills in English Textbooks in Jordan. Journal of Education and Practice, Vol.7, No.16.
- Mehta N, Kapoor H.(2024) Validating Tools to Measure Life Skills Among Adolescents in India. Journal of Indian Association for Child and Adolescent Mental Health. Vol.20(3):221-228. doi:[10.1177/09731342241236304](https://doi.org/10.1177/09731342241236304)
- Mishra, P & Pandey, C.(2025). Life Skills Of Senior Secondary Level Students, International Journal of Creative Research Thoughts (IJCRT), Volume 13, Issue 4.
- Monika & Minakshi. (2024). The Impact of Life Skills and Education Adjustment Among Students: A Study of Central Part of India, Research Inventy: International Journal of Engineering And Science Vol.14, Issue 4 (April 2024), PP 37-42.
- Monika & Ronak. (2022). A Comparative Study Of Life Skills Among Secondary School Students Of Private And Govt. Schools In Sonipat District. EPRA International Journal of Research and Development (IJRD), Volume: 7 | Issue: 8 |
- Mufarokah, A., Bafadal, I., Imron, A., Supriyanto, A., Jainurakhma, J. (2022). The Life Skills Education Policy Model in *Pesantren*-Based Schools. Journal of Positive School Psychology 2022, Vol.6, No.4, 2288-2299
- Munir, S. et.al.(2024). Life skills development in students at secondary level in Punjab: a need analysis, Journal of Humanities, Social and Management Sciences (JHSMS), Vol. 5(2), pp:182–194.
- Munsi, K & Guha, D.(2014). Status of Life Skill Education in Teacher Education Curriculum of SAARC Countries: A Comparative Evaluation, Journal of Education & Social Policy Vol. 1 No. 1.

- Murthy, V (2016), Issues, Problems and Possibilities of Life Skills Education for School Going Adolescents, International Journal of Indian Psychology, Volume 3, Issue 3.
- Nanaware, B.R., L. Palanethra. (2017). Effectiveness of Life Skills Education Program among CBSE and State Board Students: An Exploratory Study. International Journal of Research in Social Sciences Vol. 7 Issue 11.
- Nasheeda, A.et.al. (2018). A narrative systematic review of life skills education: effectiveness, research gaps and priorities, International Journal of adolescence and Youth 2019, Vol. 24, No. 3, pp : 362–379.
- Nayak, P., Panigrahi, S., Biswakalyani, S. (2023). Life Skills Awareness Of Student Teachers Of Secondary Level In Relation To Gender, Stream Of Study And Exposure To Course, Vol.11, Issue -12.
- Neelam., Thakur, M. (2023). A Study Of Life Skills Of Adolescents With Respect To Gender, Type Of School And Residential Background, Scholarly Research Journal for Interdisciplinary Studies, Vol-12/79.
- Nguyen, H.L., Tran, T.T., Pham, Q.A. (2023). Life Skills Education for Junior High School Pupils in Ho Chi Minh City. Journal for Re Attach Therapy and Developmental Diversities. Vol. 12, No. 2, pp. 285 – 300.
- P.Sudha, T, Mythili. (2022). A study on life skills among high school adolescents studying in English and Tamil medium in government school, International Journal of Health Sciences, Vol. 6 No. S4 (2022).
- Pandey, D.P., Pandey, Mayank. (2024). Assessment of life skills among secondary school students of district Nainital, Uttarakhand India. International Journal of Literacy and Education 2024; Vol. 4(1): 165-169.

- Pathan, N. & Amin, J.N. (2023). Comparative Analysis of Life Skills Education: Global Perspectives and Challenges in India, *The International Journal of Indian Psychology*, Volume 11, Issue 3.
- Paul, P.(2023). Impact and Roll of Life Skills Education at Secondary Education Level. *Polyphony: Bankura University Journal of Education* Vol. 01, Issue 01, pp. 127-139
- Penthala, T. (2018). Life Skills Education Among Secondary School Students Of Jayashankar Bhupalapally District, *IJARIE*, Vol-4 Issue-3.
- Prajapati, R., Sharma, B., Sharma, D. (2017). Significance of Life Skills Education. *Contemporary Issues in Education Research*, Volume 10, Number 1.
- Praveen, R. (2022). Alternative and mainstream education in Kerala: A comparative study based on life skills of students. *International Journal of Health Sciences*, Vol. 6(S1), pp:13422–13428.
- Ravindranath, S., Jacob, A., Talreja, V., & Bhat, S. (2022). Effectiveness of Life Skills Intervention for Children From Disadvantaged Backgrounds: Insights From 4-year Longitudinal Study. *Journal of Education*, Vol. 204(1), 166-173.
- S, Anitha., Saxena, L. (2024). The Life Skills Education Program's Effectiveness among students from CBSE and State Boards: An Exploratory Study. *JASRAE*, vol. 21, no. 7, pp. 255–262.
- Sanjay, D. et.al., (2022). The Status of Life Skills Education in Secondary Schools – An Evaluative Study, *International Interdisciplinary Research Journal*, {Bi-Monthly}, ISSN 2249-9598, Volume-12, Issue-01.
- Shah, N.H., Nazir, N., Shaheen, S. (2022). Analysis Of English Textbook With Reference To Life Skills’ Content Of 10th Grade. *PJER*, Vol 5, Issue 2.

- Sharma, K. (2021). Inculcation and Promotion of Values Through Life Skills Education at the School Level. *MIER Journal of Educational Studies Trends and Practices*, Vol. 11, 93–101.
- Sharma, N.et.al. (2021). A Survey On Life Skill Challenges, Development And Implementation In School Education System, *International Journal of Aquatic Science*, Vol 12, Issue 01.
- Sheenu, G.S. (2025). Life Skills Awareness among Teachers in the Schools of Kerala, *International Scientific Journal of Engineering and Management*, Vol. 04(06):1-9.
- Sherif Y et.al.(2023). Effectiveness of Life Skills Intervention on Depression, Anxiety and Stress among Children and Adolescents: A Systematic Review. *Malaysian J Med Sci*. Vol. 30(3):42-59.
- Srikala, B., Kishore, K.K.V.(2010). Empowering adolescents with life skills education in schools – School mental health program: Does it work?. *Indian J Psychiatry*, Vol.52(4):344-9.
- Sukumar G.M et.al. (2022). Effectiveness and Factors Associated with Improved Life Skill Levels of Participants of a Large-Scale Youth-Focused Life Skills Training and Counselling Services Program (LSTCP): Evidence from India. *Behav Sci (Basel)*. 2022 Jun 15;12(6):191.