

EVALUATION OF PRIMARY SCHOOL CHILDREN IN MIZORAM IN  
RELATION TO MINIMUM LEVELS OF LEARNING.

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I, Mr. C.Lalremruata, hereby declare that the subject matter of the thesis entitled "Evaluation of Primary School Children in Mizoram in Relation to Minimum Levels of Learning" 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 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 award of the degree of Doctor of Philosophy in Education.

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## CHAPTER - I

### INTRODUCTION

#### 1.1.0 Evaluation in Primary Education:

UNESCO made a remark that 'the young are not only the beneficiaries of development; they are the principal contributors to it if they are adequately prepared'.<sup>1</sup> It is well accepted, in the present civilization, that education is the chief means of preparing and training the young generation towards efficient and worthy citizens of the society which will ultimately bring social development. It is obviously observed that an individual development cannot be considered and visualized in isolation from the society and at the same time, the social development also cannot be considered without individual development. By bringing individual development through education, we are hoping to eradicate poverty and attaining the highest degree of social development. Mr. G.Woods, the president of the World Bank has once aptly said, "I believe that we will have to do more to help create the facilities necessary for the spread of education. Education is, of course, valued itself but it is also of central importance in the whole development process."<sup>2</sup> The achievement towards individual and social development is greatly dependent upon the quality of education provided to the young generation. Hence, everyone in the modern society aspires for quality education so that they can enjoy a better life.

Primary Education is the most important stage in school education for being the most formative period of a child's life. This stage covers the children of age 6+ to 11 studying in classes I to IV/V. It is the



stage when significant physical, mental, emotional and spiritual development and growth takes place. It is very crucial because it is the time when basic concepts are formed, attitudes and values towards life and different subject of studies are developed which has far reaching effect in their later learning and life. Hence, enhancing quality in teaching learning process at this stage is of paramount importance. The SSA mission has also encouraged research and evaluation as an on going process to monitor and facilitate quality improvement in teaching learning process<sup>3</sup>.

Evaluation is an integral part of planning, monitoring and implementing an educational programme. The purpose of evaluation is to make judgement about the quality, attainment and relevance of education. Its use implies a general weighing of the value or worth of something. Evaluation commonly involves making comparison with a standard, or against criteria derived from stated objectives, or with other programmes, curricula or organisational situations<sup>4</sup>.

Evaluation is, therefore, used to determine the effectiveness of our primary schools in terms of learning achievement by students. Mortimore (1991) has defined an effective school as one in which students progress further than might be expected from a consideration of its intake. According to this definition, an effective school adds extra value of its students' outcomes in comparison with other schools serving similar intakes. By contrast, in an ineffective schools students make less progress than expected, given their characteristics at intake (Tiguryera, 2000). Fullan (1995) conceives school effectiveness as "producing the best possible learning outcomes given variable student characteristics and needs,

changing resources, and a dynamic definition of what should be taught". For British Schools, Reynold, et al (1996) identified nine key factors associated with school effectiveness – professional leadership; shared vision and goals; an orderly and attractive learning environment; high quality teaching and learning; high expectations; positive reinforcement; monitoring pupil progress and evaluating school; pupil rights and responsibilities; purposeful teaching. The American PTA concept of school effectiveness encompasses the following nine factors – clear goals and objectives; adequate and equitable funding and financial management; academic programmes that provide the opportunity for all students to develop academic and like skills; assessment programmes that identify how instruction can be improved and learning can be increased; parent, family and community involvement in every facet of the education and development of children from birth to adulthood; skilful teachers and staff; students who are life-long learners and good citizens; support services that address the holistic needs of the students.

### **1.2.0 Innovative Practices in Pupil Evaluation Abroad:**

With a view to acquire a thorough understanding about the practises of evaluation in teaching learning situation, it may be worthwhile to dwell upon the innovative practises of pupil evaluation at primary level of some developed and developing countries. In U.S.A, the profile of evaluation of children's growth includes two elements, vertical elements and horizontal elements. The vertical elements consist of the areas of growth that the instructional programme provides for. These areas include content and skill learning as well as skills and behaviours specific to Social Studies. The vertical elements can be listed by referring to school curriculum, discussion

with teachers, parents and community leaders. It present broad areas of behaviour to be cultivated in students. Listing of these behaviour helps a teacher to develop a growth profile by observing students behaviour in related specific situations. On the other hand, horizontal elements or dimensions consist of the skills for various areas of the growth. In other words, the horizontal elements of the profile consist of the scales for various areas of the growth. These scales are based on accuracy and appropriateness of behaviours ranging from never to always.

In Australia, evaluation procedures for pupil achievement in primary schools are known as developmental assessment. Development assessment is the process of monitoring a student progress through an area of learning so that decisions can be made about the best ways to facilitate further learning. The syntax for developmental assessment used is constructing a progress map, collecting evidences needed to estimate students level of attainment and reporting. The Development Assessment is the process of monitoring students' progress both in scholastic and non-scholastic areas so that decisions can be made about the best ways to facilitate further learning.

In Thailand, testing is done for grades II, IV and VI. Teachers write the answers of assignments on the blackboard and students correct each others homework. There is no evaluation for grade I. 170 learning objectives have been aimed at for Class I. Teachers assumed that students have achieved the objective without administering any test. Teachers know only vaguely that certain students are clever and advanced and others are weak and slow.

Some of the testing procedures adopted are – correcting homework or exercises; examinations; curriculum realization in the classroom.

In England children must start school after their fifth birthday, but it is common for children to start when they are four in what is known as the Reception class. The Performance Indicators in Primary Schools (PIPS) project collected data on 1700 pupils' early mathematics and pre/early reading levels at the start and end of their Reception year. The on-entry assessment proved to be a good predictor of performance in reading and mathematics at the end of reception and the progress which each child made was estimated. This progress was found to vary considerably between schools and the variation was much greater than that typically found in school effectiveness studies. The data provided a unique opportunity to compare the progress of children who had, and had not, been to school. The Reception year was found to have had a major impact on the literacy and numeracy of children.

Some developing countries, including Ethiopia and Lesotho, have built elements of school-based assessment into their public examination systems. Very few other countries however, have followed their lead, and relatively little use is made of school-based assessment, which can impose considerable burdens on teachers and administrators<sup>5</sup>.

Most countries, including many developing ones, have some sort of public examinations that individual pupils take at the end of primary school and other transition points in schooling. These examinations serve the purposes of: 1) Selecting pupils to go on to secondary school; 2)

Certifying graduates for entry into the job market, and 3) Fostering accountability for schools and school systems. Of these, selection is usually the most important<sup>6</sup>.

Characteristics of public examination systems of developed countries are well known, for example, the fiercely competitive Japanese system. The U.S.A, Canada and Sweden are the only major developed countries that do not have national public examinations. The United States has no national curriculum. In the absence of a State-sponsored system, two private organisations sponsor examinations that American pupils take as part of the University admissions process<sup>7</sup>.

Public examinations play an even more important role in developing countries, in Africa, Asia and the Caribbean, if only because alternative opportunities for advancement in such countries tend to be more limited. In India, the recently enacted Right to Education Act, 2009 removed the necessity of public examination from elementary school (vide Art. 30 (1) & (2)). Virtually, all African countries conduct examinations at the end of primary, lower-secondary and upper-secondary cycles and countries in French speaking areas frequently require an additional exercise, such as end-of-year tests and competitive examinations for entry to subsequent levels of schooling.

China, which invented the Imperial Examination System in the tenth century to assure that the " all important business of government must not be left to the accidents of either birth or wealth", is another country that uses public examinations to rationalise the distribution of scarce places.

Pupils take examinations at the end of the nine years of compulsory schooling in order to qualify for the various forms of upper secondary education. Subsequent exams at the end of upper secondary schooling determine university entrance<sup>8</sup>.

Evaluations or Assessments differ from public examinations in that their goal is to inform policy for the education system as a whole rather than to certify and select individuals. They can be used for purposes as varied as allocating scarce resources, monitoring standards, informing teaching, promoting accountability, increasing public awareness of the importance of education and informing political debate.

### **1.3.0 Expansion of Primary Education in India and Quality**

#### **Concern:**

Since India got her independence, education has become the main concern of the government both in the Central and State level as well. In fact, all out efforts have been made to improve and promote the quality of education so as to bring about acceleration in the process of modernization, increase in productivity, social and national integration, and personality development through inculcation of fundamental moral and spiritual values. On the recommendation of the Education Commission 1964, the whole educational structure and system was reorganized and restructured with a view to relate education to the life, needs and aspirations of the people of the country. Consequently, the country witnessed immense expansion and spread of education especially in terms of quantity. The number of Primary Schools in the country has increased from 2.09 lakhs in 1951 to 6.38 lakhs

in 2001; the number of Upper Primary schools has also increased from 0.13 lakh in 1951 to 2.06 lakhs in 2001; Secondary Schools also increased from 0.07 lakh in 1951 to 1.26 lakhs in 2001 (NCERT,2006). On the whole, nearly 95 per cent of our population are served by primary schools within one kilometre<sup>9</sup>. This expansion has definitely made education more easily accessible to a larger section of the population.

Of the schools imparting elementary education in the country in 2007-08, 80.2% were all government schools, 5.8% private aided schools and 13.1% private unaided schools. All most 87.2% of the schools are located in the rural areas. In the rural areas the proportion of private unaided schools is only 9.3% and that of aided school is 4.7%. However, in the urban areas, the percentage of private unaided and aided schools is as high as 38.6% and 13.4% respectively<sup>10</sup>. The total number of teachers working in these schools in 2007-08 was 56,34,589 of which 69.3%, 10.4% and 20.7% were teaching in government, aided and private schools, the average number of teachers per school being 3.9, 8.3 and 6.7 respectively. Nearly 10.3% schools are single-teacher schools. (Govinda, 2009).

However, such expansion of education in term of institution and enrolment in a large-scale manner within a short span of time can result in diluting the quality in terms of institutional infrastructure, teaching-learning processes, and learning outcomes of the students. Hence, this has become the concern of the education planners both at the central and state level especially since NPE, 1986. In fact, the World Conference on Education for All (WCEA) held in March 1990, at Jomtien in Thailand was also held in response to the widespread recognition of the deterioration in education

systems in the 1980s, and concern over the millions of children and adults who remained illiterate and poorly prepared for life in their own societies<sup>11</sup>. The commitment for the improvement and expansion of Primary education in terms of qualitative aspects both at the International and National levels is very prominent and cannot be over sighted now-a-day.

The expansion of educational institutions with varying degree of quality, if any, may not be acceptable from the point view of the Constitutional Article 16 which provides the right to 'equality of opportunity in matter of public employment' to all citizens. The vision and spirit of the said right envisaged under this Article can only be materialized when all children of India receives the same kind of education in terms of quality. It is obvious that any child who received inferior education in term of quality cannot be equated with the child who received better and quality education. In other words, education with quality variation is the deprivation of the children's' right to equality of opportunity in matter of employment. Moreover, free and compulsory elementary education for all children of the age group 7-14 has also now become the fundamental rights of every child under the Article 21(A) and the Right of Children to Fee and Compulsory Education Act 2009 which has been in force in the country w.e.f 1<sup>st</sup> April, 2010. In order to fulfil these Constitutional obligations in the true spirit, all children must not only be provided easy access to school but must be provided all the necessary facilities for success. Therefore, the need for provision of equal access and conditions for success to all children irrespective of caste, creed, location or sex has become an imperative



demand of the nation and this had consequently caused the need to lay down MLL.

#### **1.4.0 NPE, 1986 and Minimum Levels of Learning (MLL):**

Recognizing the urgent needs for providing quality education and to rectify the anomalous situation, the NPE 1986 calls for paying immediate attention to (i) improving the unattractive school environment, the unsatisfactory condition of buildings and inadequacy of instructional material; and (ii) laying down minimum levels of learning that all children completing different stages of education should achieve. In this regard, the policies includes the following statements<sup>12</sup>:

(i) "To promote equality, it will be necessary to provide for equal opportunity to all not only in access, but also in the conditions for success." (MLL, Para 3.6).

(ii) "Minimum Levels of Learning will be laid down for each stage of education" (MLL, Para 3.7).

The NPE observes that quality education with comparable standard set at the minimum level is the requisite condition for success. The issue of quality education with comparable standard also entailed automatically the creation of reliable evaluation system to ensure the achievement at least of the prescribed levels of learning. In this respect, the NPE 1986 also laid down that Continuous and Comprehensive Evaluation (CCE) system shall be followed with an incorporation of both scholastic and non-scholastic aspects of education, spread over the total span of instructional time<sup>13</sup>. The scholastic aspects of education are concerned with learning at the cognitive level whereas non-scholastic aspects include

all learning outcomes in behavioural terms. The CCE device is to evaluate the progress of a child both in cognitive and non-cognitive areas. The MLL gives the objective of teaching-learning processes in behavioural terms whereas CCE is to measure how far progresses have been achieved by every individual both in cognitive and non-cognitive aspects. Therefore, it can be apparently observed that MLL and CCE approach are just like the two sides of the same coin since they are closely interdependent.

### **Concept of MLL:**

Minimum Levels of Learning may, perhaps, be defined in a variety of ways. For example, one may define MLL as expected learning outcomes in terms of observable terminal behaviour. Other may also defines it on the basis of a taxonomic analysis of learning objectives such as knowledge, comprehension, application, analysis, synthesis, evaluation and so on. One can also state the MLL in terms of learning competencies expected to be mastered by every child by the end of a particular class or stage of education. These different approaches for stating the MLL are not mutually exclusive<sup>14</sup>. Of the various alternatives available, the Committee which was constituted by the MHRD on 5.1.1990 has chosen to state the MLL in terms of terminal competencies<sup>15</sup>.

The concept of Minimum Levels of Learning (MLL) comprises three sub-concepts, i.e. learning, level and minimum. Learning has been defined as a change in behaviour. Thus, behavioural changes are indicators of learning outcomes. The specific terms relating to behavioural changes, such as recall, recognize, infer, predict, analyze as differentiated from global terms, such as know, understand, apply, etc, are the concrete, observable,

measurable and quantifiable examples of such indicators. The term 'level' refers to a standard with reference to which achievement or performance of a learner can be compared, judged and evaluated. The term 'minimum' refers to the levels of learning that have to be acquired by almost all children whatever be their ability and background without ignoring optimal or higher level of learning by some capable children.

#### **1.5.0 Formulation of MLL by NCERT:**

In fact, significant efforts to formulate the minimum levels of learning had already been made at the NCERT way back in 1978 as a part of UNICEF-assisted projects on 'Primary Education Curriculum Renewal' and 'Developmental Activities in Community Education and Participation'<sup>16</sup>. As part of these projects, a 'Minimum Learning Continuum' was prepared and drawn indicating the learning outcomes expected to be achieved by all children completing classes II, III, IV and V. The Primary Education Curriculum Renewal Project was evaluated in 1984 using a set of achievement tests developed for all the primary classes based on the competencies specified in the Minimum Learning Continuum. Later, utilizing the empirical evidences collected through this evaluation study and following the NPE, 1986, the NCERT prepared another document entitled, 'Minimum Levels of Learning at the Primary Stage'. Later, the Department of Education, MHRD organized a seminar in December, 1989 on the theme, 'Basic Learning Needs and Levels of Attainment' and this seminar recommended for initiating concrete efforts at the national level to formulate and laying down minimum levels of learning. Consequently, the Department of Education, Ministry of Human Resource Development, Government of

India set up the Committee vide Order No.74/3/89-Desk(TE) dated 5th January 1990 and Dr R.H.Dave, Director (Rtd.), Unesco Institute for Education was appointed as the Chairman. The terms of reference of the Committee were as under<sup>17</sup>:

1. Draw up minimum levels of learning for Classes III to V.
2. Recommend a procedure for comprehensive learner evaluation and assessment.
3. Look into the non-cognitive areas of learning and suggest concrete ways in which teaching in these areas can be improved.

Although the term of references included drawing up minimum levels of learning only for Class III to V, the Committee found it more feasible to carry out the exercise for all the Classes at the primary stage of Class I to Class V. After a series of workshops and meetings involving teachers, Non-formal Education Instructors, eminent educationists and the SCERTs, etc., the Committee finalized its report in August 1990 which was published by the NCERT with the approval of MHRD in January, 1991 under the title "Minimum Levels of Learning at Primary Stage". The publication also includes a separate chapter of Action Plan for implementation of the MLL throughout the country.

#### **1.6.0 Functions and Importance of MLL:**

MLL strategies pave the way for quality enhancement in the teaching-learning process. It gives us well-defined expected levels of learning outcomes which introduce a sense of direction and a greater element of accountability in the system. In fact, it is not possible to direct the process

of teaching-learning activities meaningfully in the absence of a clearly defined set of criteria for measuring student performance and accountability in the system. In other words, it is essentially necessary to set up measures for judging the quality of our schools on the basis of what the students are actually learning at the end of each class or stage. At this juncture, the MLLs actually represent the rational criteria adopted for judging the quality of education in term of the expected learning outcomes.

By nature, children learn everything lively. Hence, learning at the basic stage must be made lively. Conventional and traditional learning which greatly depend upon textbooks information is very difficult to make it lively. As a matter of fact, it kills the very nature of lively learning of children and suppresses curiosity, originality, spontaneity and interest. At this circumstance, MLL approach paves the way for creating teaching- learning processes lively since it focuses on learning outcomes rather than textbook knowledge.

In the processes of learning, the evaluation method or system really determines the way we deliver teaching and the way the learner prepares by themselves. In other words, it really determines the whole processes of teaching learning in schools. If our evaluation method focuses into cognitive areas only, teachers and learners would also confine themselves within such aspects. On the other hand, if our evaluation is focussed on behavioural changes in cognitive and non-cognitive areas, the teaching learning processes would also emphasize all those aspects naturally. Hence, MLL approach is inevitably essential in teaching learning situation to bring about quality education in terms of terminal behavioural

changes or learning outcomes. It is a student-centred learning philosophy that focuses on empirically measuring student performances, which are called learning competencies or outcomes.

The needs and importance of MLL stems principally from three concerns<sup>18</sup>:

(i) Firstly, in every human activity, sense of direction and accountability are the essential conditions for success. We cannot expect much progress without direction and accountability. The teacher may lose sight of the actual goals of learning and thereby focusing merely on regular attendance and the completion of the syllabus in time. The pupils also are likely to lose a sense of purpose and motivation in their studies. Hence, laying down well-defined standards of learning is indispensable to introduce a sense of direction and a greater element of accountability in our educational system.

(ii) Secondly, quality is often depicted in terms of the input rather than the output. However, in the real sense, the quality of a school or education system is viewed on its students and graduates in terms of their competency skills. This implies that the quality of a school, in the practical sense, is determined by not the input, but by the output quality. In fact, the input process is mainly for the purpose of increasing the output quality in terms of pupil achievements. In order to measure the quality of a school or education system, it is necessary to first define our measure of output in the form of expected standard of achievement in the practical sense. Thus, MLL which is the minimum set of expected standard of achievement in terms of competency skills is a practical solution to the problem of quality concern.

(iii) Thirdly, primary stage of education is the stage where the highest number of pupils gets enrolled and a large number of them may likely be unable to get the opportunity of education beyond the primary stage. This indicates that what the pupils have learnt at this stage must sustain throughout their lives. As such, it becomes imperative that the educational system makes sure that these precious school years of the children are not wasted. Hence, all children irrespective of their family, community, school conditions, etc., must attain at least a minimum standard of primary education that would eventually enable them to understand their world and prepare them to function in it as permanently literate, socially useful and contributing adults. Hence, MLL is the necessary tool to make sure that the primary school provides useful and worthwhile learning to its pupils.

#### **1.7.0 MLL and Outcome Based Education or Learning**

##### **Outcome Approach Education in other countries:**

It seems that the MLL in India is not a new concept but the same concept as that of OBE system in other countries of the world. Outcome Based education (OBE) is a recurring education reform model which was a popular term in the United States during the 1980s and 1990s<sup>19</sup>. It is also called 'mastery education' or 'performance-based education' and other names. It has also been adopted in significant ways in Australia, South Africa, Hong Kong and other countries other than USA. It is typically based on a student-centred learning philosophy that focuses on empirically measuring students' performance, which are called 'outcomes'. OBE Model rejects traditional learning which focuses on what the school

provides to students. Instead, it favours making students demonstrate what 'They know and are able to do'. It greatly emphasizes setting of clear standards for observable and measureable outcomes.

Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate at the end of a period of learning. As a matter of fact, learning outcomes can be loosely traced to the work of Ivan Pavlov (1849-1936 and then the work of the American 'behavioural school' of psychological thought developed by J.B.Watson (1875-1958 and B.F Skinner (1904-1990). Behaviourism emphasised the clear identification and measurement of learning and the need to produce observable and measureable outcomes. Subsequently, the 'learning outcome approach' was refined by educational practitioners in Australia, New Zealand, South Africa and the U.K and more recently by Denmark, Sweden, Ireland and other parts of Europe<sup>20</sup>. The standards-based National Education Goals ([Goals 2000](#)) were set by the U.S. Congress in the 1990s. Many of these goals were based on the principles of [outcomes-based education](#), and not all of the goals were attained by the year 2000 as was intended. The movement resulted in the [No Child Left Behind Act](#) of 2001, which as of 2009 is still an active nation-wide mandate in the United States<sup>21</sup>.

### **1.8.0 The Research Setting – Mizoram:**

Mizoram is mountainous region which became the 23<sup>rd</sup> State of the Indian Union in February, 1987. It was one of the districts of Assam till 1972 when it became a Union Territory. The indigenous



inhabitants are known as 'Mizo'. Mizoram has a total of 722 Km boundary with Myanmar in the east and Bangladesh in the west. Mizoram was formerly divided into three districts, namely, Aizawl, Lunglei and Chhimtuipui which have been divided from 1999 into eight districts, viz., Aizawl, Champhai, Kolosib, Lunglei, Lawngtlai, Mamit, Saiha, Serchhip districts. There are three Autonomous District Councils, namely, Lai Autonomous District Council (LADC), Mara Autonomous District Council (MADC) and Chakma Autonomous District Council (MADC) covering the whole of Lawngtlai and Saiha Districts in the southern most areas of the State.

Before the Christian Missionaries arrived, there was no formal education among the Mizo. In the year 1894, two pioneer Christian Missionaries, J.H.Lorrain and F.W.Savidge arrived at Aizawl. They immediately started their mission and developed a Mizo script by following the phonetic Hunterian system of orthography and opened the first modern school on 2 April, 1894 with two pupils<sup>22</sup>. In the year 1898, there were 39 students. The first Lower Primary school examination was held in 1903 in which 16 males and 3 females were declared passed. There was immense progress and achievement in terms of institutions, enrolment and teachers strength within a hundred years in Mizoram. The number of primary schools has increased from 3 primary schools in 1901 to 1782 Primary schools, 1313 Middle school (upper primary schools), 521 High schools and 95 Higher Secondary schools in 2009<sup>23</sup>.

The enrolment has also increased from 39 in 1889 to 1,56,396 in Primary schools, 66776 in Middle schools, 48811 in High schools, 17049

in Higher Secondary schools with the overall total enrolment of 2,89,032 as on 30<sup>th</sup> September 2009<sup>24</sup>. The total strength of teachers in 2009 was 8477 in Primary schools, 7564 in Middle schools, 3853 in High schools and 1224 in Higher Secondary schools<sup>21</sup>.

Of the 1782 schools imparting Primary schools in the State of Mizoram as on 30<sup>th</sup> September, 2009, 48.54% (865) were government schools, 26.09 % (465) private unaided schools, 15.93% (284) local body, 1.06% (19) Council aided, 8.24% (147) schools under Education Guarantee Scheme undertaken by SSA Mission<sup>25</sup>. All most 65.58% of the schools are located in the rural areas whereas 34.42% are located in urban.

#### **1.9.0 Rationale of the Study:**

Since Jomtien declaration on Education for All, 1990, there has been worldwide recognition of the importance of measuring learning outcomes. UNESCO and its partners were mandated to carry out a 10-year assessment of the Jomtien goals<sup>26</sup> so as to present the report in the World Forum on Education for All (EFA) held in Dakar, in April, 2000. This exercise was known as EFA 2000 Assessment which provided a unique opportunity for a worldwide attempt to measure improvement in learning outcomes. The results from these surveys were then used to establish one of the six goals of the Dakar Framework of Action, namely EFA. As a matter of fact, the Goal No 6 was a re-affirmation of the vision, set out in a decade ago in Jomtien, which states:

“Improve every aspect of the quality of education, and ensuring their excellence so that recognized and measureable learning outcomes are achieved by all especially in literacy, numeracy and essential life skills”<sup>27</sup>.

Besides providing equality of educational opportunities in terms of access, systems for measuring learning outcomes were strongly proposed to assist informed educational policy-making. In view of the worldwide recognition of importance given to quality education in terms of learning outcomes, it is desirable to take up the present study to evaluate the quality of primary school in Mizoram in terms of learning outcomes.

The Article 4 of the declaration made by World Conference on Education for All (WCEA), 1990 says:

“Whether or not expanded educational opportunities will translate into meaningful development - for an individual or for society - depends ultimately on whether people actually learn as a result of those opportunities, i.e., whether they incorporate useful knowledge, reasoning ability, skills and values. The focus of basic education must, therefore be on actual learning acquisition and outcome, rather than exclusively upon enrolment, continued participation in organized programmes and completion of certification requirements. Active and participatory approaches are particularly valuable in assuring learning acquisition and allowing learners to reach their fullest potential. It is, therefore, necessary to define acceptable levels of learning acquisition for educational programmes and to improve and apply systems of assessing learning achievement.”<sup>28</sup>

The NPE, 1986 also says:

“To promote equality, it will be necessary to provide for equal opportunity to all not only in access, but also in the conditions for success<sup>29</sup>.”

The condition for success is the concern of quality in education. Art.16 of the Indian Constitution embedded equal opportunity to every citizen and this can be met mainly through quality education provided to every child especially at elementary stage. Not only access to education, but quality education is the birth right to every child. Quality means ‘conformance to requirement’<sup>30</sup>. The requirement is the condition for success and only when our education system is conformed with such requirement i.e. condition for

success, our education can be termed as quality education. Therefore, the present study is to look into the quality aspects of primary schools in Mizoram with a view to give concrete suggestions for further improvement.

The State of Mizoram has achieved commendable progress in literacy and has even become the second highest literate State in India, next to the state of Kerala. However, how far our literacy has brought actual learning in terms of competencies or learning outcomes is an important concern. The State's education has witnessed immense progress and improvement especially at elementary stage in terms of infrastructural facilities, enrolment and retention as a result of the recently launched SSA programmes<sup>31</sup>. How far these improved physical condition, expansions and progress have brought improvement in the quality is another concern which requires immediate attention. Otherwise, expansion in terms of access, enrolment, etc can result into dilution of quality. Therefore, the present study, being the first one in the field for Mizoram, is very crucial and an inevitable venture.

Since the quality of education is judged not only by its inputs and process but mainly by its outputs in terms of skills or competencies acquired by students; assessment of school children is a necessity for judging the quality of education and for improving it. However, testing procedures and tools used in the country as well as in the State today leave a great deal to be desired. The content of tests is so entirely based on prescribed textbooks that even a slight deviation from the text results in dissonance and confusion in the minds of children and teachers alike. The format of a test and the type of questions asked are the same year after year.

What is essentially tested is how well a child is able to recollect his textbook material. The exact language used in the book is to be dutifully reproduced by the students. A 'creative' or 'novel' approach in answering a question may be marked wrong, since teachers are accustomed to scoring answers on the basis of how well they correspond with the textbook (Kamii, 1990)<sup>32</sup>.

It is high time to improve our evaluation tools and testing procedures and to go for competency based tests. What will be the level of achievement of our primary school children if they were tested through competency based achievement tests prepared on the basis of MLL which is the minimum set of expected standard of achievement in terms of competency skills? This is an important question that needs to be answered by way of research.

Mizoram, like other States of the country, has experienced the mushrooming growth of private English medium schools. These schools are preferred by parents and only those who cannot afford the tuition fees or who do not wish to spent on them sent their children to government schools. Will private English medium schools are better than Mizo medium schools? Will the children in these schools perform better when they are given competency based achievement tests on different subjects? When primary schools are classified into urban and rural schools, which school will be better in terms children's performance or learning outcomes? It is a fact that gender differences are expected in almost all spheres. If so, will primary school boys show better performance than primary school girls? If yes, in what subjects and in what areas? Moreover, what are the areas of weaknesses of children in elementary schools? In which subject or area of

learning are children in primary school mostly weak? What are the areas of difficulty or hard spots in Environmental Studies, Mathematics and Mizo? All these questions demand an intensive study and analysis which can only be addressed properly through research. It is, therefore, in this context that the need of the study was felt and the study was undertaken.

#### **1.10.0 Statement of the Problem:**

The problem of the present study has been stated as follows: "Evaluation of Primary School Children in Mizoram in Relation to Minimum Levels of Learning".

#### **1.11.0 Objectives of the Study:**

The study has been taken up with the following objectives:

1. To assess the performance and levels of achievement of Class IV children of primary schools in Mizoram in Environmental Studies (EVS), Mathematics and Language (Mizo) in relation to Minimum Levels of Learning (MLL).
2. To compare the performance and levels of achievement of Class IV children in EVS, Mathematics and Mizo in relation to MLL on the basis of management of primary schools i.e. government and private.
3. To compare the performance and levels of achievement of Class IV children in EVS, Mathematics and Mizo in relation to MLL on the basis of locality i.e. rural and urban.
4. To compare the performance and levels of achievement of Class IV children in EVS, Mathematics and Mizo in relation to MLL on the basis of gender i.e. boys and girls.

5. To analyse course structures or objectives, textbooks, school facilities and teachers' qualifications as learning inputs in relation to achievement of children in MLL based competency tests.

#### **1.12.0 Hypotheses:**

The present study has been conducted with the following hypotheses:

1. Class IV children of primary schools in Mizoram do not achieve mastery level of MLL for Class III in Environmental Studies (EVS), Mathematics and Language (Mizo).
2. There is no significant difference between the performance (mean scores) of Class IV children of government and private primary schools in Mizoram.
3. There is no significant difference between the performance (mean scores) of Class IV children of rural and urban primary schools in Mizoram.
4. There is no significant difference between the performance (mean scores) of boys and girls of Class IV in primary schools in Mizoram.
5. The course structures or objectives, textbooks, school facilities and teachers' qualifications as learning inputs do not necessarily predict the academic performance.

#### **1.13.0 Operational Definitions of the Terms Used:**

The operational definitions of certain terms used in the present study are as given below:

**1. Minimum Levels of Learning:**

Minimum Levels of Learning refers to minimum learning outcomes or competencies expected to be mastered by every child by the end of a particular class or stage of education as prescribed by NCERT.

**2. Mastery level:**

'Mastery level' implies mastering or achieving at least 80 per cent of those competencies or expected learning outcomes.

**3. Government Primary Schools:**

Those Primary Schools run by the State Government are termed as the Government Primary Schools.

**4. Primary School Children:**

"Primary School Children" here means children who were enrolled in Class I to IV in Mizoram Primary schools during the year 2009-2010.

**5. Private Primary Schools:**

Those Primary schools run by private enterprises or individuals or Christian Missions where mostly English is used as the medium of instruction are termed as Private Primary Schools.

**6. Urban Schools and Rural Schools:**

Those schools located in the State capital i.e. Aizawl and District capital towns are taken as urban schools whereas those schools located in villages and towns other than District capital towns and state capital city are termed as rural schools.

**7. Environmental Studies:**



'Environmental Studies' here means the Environmental Studies as a subject of study for Class III prescribed by the Mizoram Board of School Education (MBSE).

**8. Language (Mizo):**

'(Mizo)' here means the Mizo Language as a subject of study for Class-III prescribed by the MBSE for both government and private primary schools.

**9. Mathematics:**

'Mathematics' here means Mathematics as a subject of study for Class III prescribed by the MBSE for both government and private primary schools.

**10. Learning Outcome:**

Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate at the end of a period of learning.

**1.14.0 Delimitation of the Study:**

The present study has been delimited to evaluation of only Class IV children of primary schools in Mizoram. This has been done due to the fact that Class IV is the end of Primary Stage in Mizoram and the performance of these children is supposed to indicate the quality of primary education in the state. The evaluation was further delimited to the subjects of Environmental Studies, Mathematics and Language (Mizo) since MLL for primary school children has so far been formulated only on these three subjects.

### **1.15.0 Organisation of the Report:**

The report of the present study has been divided into five chapters to facilitate a systematic presentation:

Chapter I is Introductory, giving concept, brief historical development of primary education in India and Mizoram State. Besides, brief historical development, concept and functions of MLL including concept of out-come based education as happened in other parts of the world. Moreover, rationale and objectives of the study, statement of the problem, hypothesis, operational definitions of the term used and delimitation of the study are presented.

Chapter II deals with review of related studies on evaluation of elementary children mainly focussing on dimensions of learning achievement and learning inputs. The main body of this review is preceded by a bird's eye view of research studies on evaluation of elementary children.

Chapter III describes the methodology and procedure adopted for the present study. The method of the study, population and sample, construction of tools, collection of data through administration of the achievement tests and statistical treatment of data are described in this chapter.

Chapter IV is concerned with analysis and interpretation of data regarding performance and level of achievement of Class IV children presented under the following three main broad headings:

- (i) Performance and level of achievement of Class IV children in Environmental Studies, Mathematics and Mizo in relation to MLL.

(ii) Comparison of performance and level of achievement of Class IV children.

(iii) Learning Inputs.

The concluding chapter, Chapter V presents the major findings and conclusions, discussion, recommendations and suggestions which are presented under the three main broad headings:

(i) Performance and level of achievement of Class IV children in Environmental Studies, Mathematics and Mizo in relation to MLL.

(ii) Comparison of performance and level of achievement of Class IV children.

(iii) Learning Inputs.

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## CHAPTER - II

### REVIEW OF RELATED STUDIES.

Elementary education is being universally accepted as foundation and basic for development of human individual and society. As such, the NPE, 1986, and as revised in 1992 had emphasized the need for a substantial improvement in quality education to achieve essential levels of learning. The main indicator of the quality of elementary education can be visualised in terms of its product – the learners' achievement both in scholastic and co-scholastic areas. It is, therefore, inevitably necessary to periodically monitor and evaluate enhancement in children's learning achievement and progress so as to direct education process towards quality in its products. In India, all States are encouraged to undertake independent learning achievement surveys to assess performance of their students from time to time<sup>1</sup>. Although assessment of learning achievements or outcomes has been the common practised in developed countries for more than five decades, it has only been becoming popular and given due recognition only since 1990s in developing countries under the guidance and support of UNICEF-UNESCO<sup>2</sup>. Research Studies in the area of evaluation of elementary education have been conducted in India only since 1975 and the first of such study was done by Tiwari (1975). The research studies in India and abroad relating to pupil achievement in elementary education is presented in this chapter.

### 2.1.0 A Bird's Eye View of Research Studies on Evaluation of Elementary Children:

It is in the Fourth Survey of Research in Education-1983-88 that a separate trend analysis of research in elementary education has been included in the series of surveys of educational research in India for the first time. The first three surveys did not deal with elementary education as a separate area of research. All studies in this area distributed over the previous surveys under different heads have been collated with the studies undertaken during the period covered in the fourth survey. The research studies conducted fall in several categories: history, developmental surveys, universalization, pupil-assessment, curriculum development, evaluation, school systems, teacher characteristics and training, educational costs, and research needs. Since pupil-achievement is the only category/area relevant for the present study, the number of studies conducted in the area is given below:

| <b>Table 2.1 :</b>  |   |       |       |       |       |      |
|---|---|-------|-------|-------|-------|------|
| <b>No of Research Studies in the Area of Elementary Education and Learning Achievement.</b> |   |       |       |       |       |      |
| Area  | No of studies during the period of 4 decades from 1950s |       |       |       |       |      |
|   | 1950s   | 1960s | 1970s | 1980s | Total | %    |
| Pupil achievement and development   | —   | 7     | 10    | 17    | 34    | 16.4 |
| Research in Elementary Education.   | 9   | 25    | 68    | 106   | 208   | 100  |
| <b>Source: 4th Survey of Educational Research.</b>  |   |       |       |       |       |      |



Since 1950s and up to 1980s there were 208 research studies in the field of elementary education out of which 34 (16.4%) were concerned with evaluation of pupil achievement.

A bibliography of research studies brought out by the NCERT (Dave and Murthy, 1994) reported the collection of around 1,800 abstracts for Fifth Survey of Educational Research-1988-92 so far. The number of studies carried out in the area of primary education is 54 that amounts to around 3% of the total research conducted during 1988-92. In terms of number, especially this being a priority area in the Indian education system, it looks quite small. However, in terms of the average number of research studies classified into 38 areas, one may view it as having an equal share of attention of the researcher in India. All the same, there is no denying the fact that this priority sector of education has not received the attention that it should have, particularly when the country has not been able to achieve the goal of Universalization of Elementary Education. The studies reviewed are classified into the following 11 categories:

1. Historical Research and/ or Studies on Goals/Aims/ Objectives/ of Primary Education.
2. Access to Primary Education – Infrastructure and Educational Facilities.
3. Enrolment, Attendance and Retention in Primary Education.
4. Learning Achievement of pupils – Cognitive, Psychomotor and Affective.
5. Development and Transaction of Curriculum Materials.

6. Teachers Education , Teachers Traits and Teaching Strategies.
7. Management , Administration and Supervision.
8. Community Participation.
9. Expenditure on Education.
10. Innovations.

Of these, Learning Achievement of pupils – Cognitive and Access to Primary Education – Infrastructure and Educational Facilities are relevant for the present study.

Sixth Survey of Educational Research 1993-2000 does not make trend report on primary or elementary education. However, there are studies relevant to the present study reported under review of researches in Mathematics education particularly in the area of achievement in Mathematics and its correlates and teaching-learning factors as related to Mathematics.

Since Sixth Survey of Educational Research covers a period of 1993 to 2000 only, other publications of NCERT have been consulted for review of studies undertaken after the period i.e. 2000 so as to make the present review up to date.

### **2.2.0 Research Studies Reviewed:**

The research studies relating to learning achievement and learning facilities including textbooks and curriculum that form the corpus for this review include mainly doctoral researches, reports of research projects completed by various departments or institutions of education within India and abroad. For a systematic and logical presentation, the

studies have been grouped into two heads keeping in mind the objectives of the present study. The dimension and decade-wise distribution of the studies reviewed has been given in Table 2.2.

| <b>Table 2.2</b>   |                |       |       |       |       |       |
|--|----------------|-------|-------|-------|-------|-------|
| <b>Dimension and Decade-wise Distribution of Research Studies Reviewed in the Present Study.</b> |                |       |       |       |       |       |
| <b>Particular of areas</b>   | No of studies. |       |       |       |       |       |
|  | 1960s          | 1970s | 1980s | 1990s | 2000s | Total |
| Studies relating to Learning Achievement   | 5              | 14    | 24    | 36    | 10    | 89    |
| Studies relating to Learning facilities  | 0              | 5     | 6     | 13    | 1     | 25    |
| Total =  | 5              | 19    | 30    | 49    | 11    | 114   |

A brief review of the related research studies conducted in India and abroad has been presented under the following heads:

1. Studies Relating to Learning Achievement.
2. Studies Relating to Learning inputs.

### **2.2.1 Research Studies Relating to Learning Achievement:**

Bhattacharya (1991) studied the relationship of several variables to pupil achievement in nutrition, health and environmental sanitation. The crucial criterion for judging the impact of the innovative project was total pupil achievement (T.Ach.), which was further divided into more sub-components, viz., Knowledge (K), Understanding (U), Application (A) and Skills (S). The major findings were: (1) The impact of the project intervention was significantly positive in enhancing the level of pupil achievement in all the five criterion components; (2) The total achievements of pupils of Classes I and II were quite high (Class I M=71.09% and Class II M = 62.36%), thereby indicating almost mastery level of achievement of pupils in T.Ach., K, U, A and S; (3) The achievement of pupils of Classes II and V were below the

average (Class III M=45.87% and Class V M= 44.94% ) whereas that of pupils in Class IV was above the average, i.e., M=55.50. Thus, there was a sudden slump from a high level of pupil achievement in Classes I and II; (4) No relationship existed between sex and pupil achievements, that is, any of the five components; (5) Attendance and socio-economic variables, namely, parental income, fathers' and mothers' occupations, education and social status of pupils were significantly related to these criterion variables; however, the magnitude of the relationship was so small that at no time they accounted for more than 10% and 5% of the total variance respectively; (6) The factors of school ecology (learning environment in the Basic Education terminology) had a greater impact on pupil achievements than those related to home ecology; (7) Simultaneous programme of the community education helped reinforce the learning achieved by pupils in school.

Buch and Sudame (1990)<sup>3</sup> in their study of achievement of urban primary school-children did not report the level of pupil achievement. However, they noted that the achievements of the children in private schools in Gujarati language and mathematics were better than those studying in the municipal schools. Further, boys and girls did not differ in their achievement in these two subjects.

Dave, et al (1988) conducted a comprehensive evaluation of the project Primary Education Curriculum Renewal (PECR), the implementation of which took place during 1975 to 1985 in 30 States and UTs. In the final count, the data of the sample study consisted of 11,343 pupils from Classes I-V drawn from 141 Project and non-Project schools scattered in 22 States

and UTs. Noteworthy was the feature that the sample comprised 50% children from the disadvantaged sections of the society, while the girls consisted of 43.63%, which was slightly more than the national sex ratio, i.e., 41.16%. The major conclusions were: (1) The impact of the project was positive as it significantly enhanced the level of pupil achievements in language, mathematics and environmental Studies (EVS) at the primary stage (except in Language in Class I; (2) The pupil achievement in Language was excellent in Classes I and II, good in class III and minimum (35% marks required for promotion to the next class in Class IV (the combined means being 63.75%, 55.22%, 41.27% and 24.65%, respectively; (3) The pupil achievement in Mathematics was excellent in Classes I and II, good in Class II and below minimum in Class IV ( the combined means being 61.25%, 67.08%, 50.80% and 32.31%, respectively; (4) The pupil achievement in EVS (Social Studies) was average in Class III and below minimum in Class IV (the combined means being 48.94% and 34.28%, respectively, and the achievement in Science was average in Class III and below minimum in Class IV (the combined means being 47.90% and 31.94%, respectively).

NCERT (2006)<sup>4</sup> conducted a nation-wide Baseline Study on Learning Achievement of Class V students. The focus was on measuring the student's achievement in three main curricular areas, namely, Environmental studies, Languages and Mathematics in all States and U.Ts. Consequently, data collected from 4787 schools, 10796 teachers and 88271 students covering 105 Districts from 27 States and 3 Union Territories have been analyzed. Major findings of the studies were:

- (1) In rural areas, boys performed significantly better than girls in all the three subjects whereas in urban areas, girls performed significantly better than boys in language only.
- (2) In all the three subjects, in each category, except in Mathematics in ST category, the urban students performed significantly better than rural students. In Mathematics, there was no significant difference in achievement between rural and urban students.
- (3) Within Language the achievement in Grammar and Usage was higher than Reading Comprehension.
- (4) Four states crossed 60% mark in achievement and three states had average achievement below 40 % in EVS.
- (5) Three states crossed 60% mark in achievement in Mathematics.
- (6) In eight states, the average score was less than 40% in Mathematics.
- (7) 3 to 4% of students scored between 90 to 100% in all the three subjects.

Major findings of the same study<sup>5</sup> on the state of Mizoram are as follows:

- (1) Achievement of rural boys was significantly better than rural girls in EVS. No significant difference in achievement was there in urban areas.
- (2) Performance of urban students was significantly better than their counterparts in rural areas in Language only.
- (3) In Language and Mathematics, there was no significant difference in students' achievement across categories, i.e ST, SC, Others.

Padhan (1991) undertook an input-output analysis of primary education in Sambalpur district of Orissa during 1975-88. His finding was that school cost, teachers' qualification and experience, and SES of students had no impact on scholastic attainment when the effect of the remaining variables was kept constant.

Ralte (1992)<sup>6</sup> in her study of development of primary education reported that the overall performance of candidates in Mizoram, who had appeared in the Primary School Scholarship examination, was not satisfactory on the achievement tests in mathematics, English and general science.

Any attempt to improve the quality of education requires reliable and valid procedures of assessment, especially of the diagnostic tests so that remedial measures can be taken. Sinha (1971)<sup>7</sup> constructed a diagnostic test of concept used in arithmetic at the upper primary level. Gadkari (1982)<sup>8</sup> constructed a diagnostic test in general science for fifth grade children and Rao (1985)<sup>9</sup> studied the nature and extent of reading disabilities. Besides these three diagnostic tests, Keskar (1981) developed a test of problem-solving ability in mathematics for children, however, depends also on several other factor. Thirteen researches have been conducted to study achievement in relation to relevant variables, bilingualism being the first to engage attention. Rao (1963) studied the achievement and adjustment of bilingual children in Madras and Chikramane (1967) studied this phenomenon in schools located on the border of Maharashtra and Karnataka.

George's (2003)<sup>10</sup> study concluded that (1) mathematical backwardness was due to neglect of mathematical basics during the early years. Positive attitude should be developed towards mathematics. Teachers should present mathematics in an interesting manner.

Shukla et al (1992)<sup>11</sup> carried out a comprehensive survey of attainments of primary school –children in various states in India. The overall conclusion was that while there were differences in the attainments of children in the different states, the overall attainment of the total (aggregated) sample was satisfactory.

Govinda and Verghese (1991)<sup>12</sup> demonstrated with the help of their well-designed study that: (1) The performance of schools with one teacher teaching all subjects was lower than and inferior to that of learners taught by specialist teachers; (3) A high correlation existed between achievement and the time spent on teaching- learning; (4) The teaching practice like explanation of concepts with the frequent use of BB, motivating students by asking questions, regularity in the classroom, regularity in giving and correcting homework and revision of previous lessons by teachers, were positively related to pupil achievement ; (5) Possession of textbooks by children was an important correlate of achievement.

According to the study of the Maharashtrian children of Wardha District by Khadse ( 1992), the language development of children brought up in joint families was better than that of those brought up in the nuclear families.

The three all-India level studies on pupil achievement (Bhattacharya, 1991; Dave, et al 1988 and Shukla, et al 1992) demonstrated



that it was not so unsatisfactory. The results of the study by Dave, et al, set in motion the attempts for defining the Minimum Levels of Learning (MLL) at the primary stage at NCERT. The question has been tied with what minimum levels of learning should be prescribed at the end of the primary stage since the claim for attaining universalization of PE has to demonstrate that in addition to universal enrolment and retention a defined level of achievement, i.e., MLL's have also been achieved by the pupils. The authors considered this was a welcome sign and an excellent opportunity to pursue a rigorous research to settle the issue. No area of education provides a better scope for precise quantification of pupil behaviour than the area of achievement testing. Fortunately, India has a pool of highly competent scholars in this field who can unquestionably deliver the goods.

The study of Jacob (1997)<sup>13</sup> reflected that (1) Class IV students of primary schools showed higher percentage of mean score in EVS (42.2) followed by language (41.2) and Mathematics (34.7 but if the MLL scheme's norms applied to the same students their score comes down up to 10.1 in EVS, 10.8 in Language and 5.6 in Mathematics. This shows that the MLL norm was much tough and of higher standard than the real ability of the students of Class IV (2)Some of the basic school factors were found in a much better position than what was a decade ago (3)Gender, age, caste, classroom facility, teacher facility, management of schools, mid-day meals were found to be correlated with the achievement of the students. The girl students had shown lower score in mathematics than boys; SC and ST students showed overall lower performance than general and OBCs

students; lower age-groups had slightly better performance than the higher age-groups.

Sharma (1997)<sup>14</sup> evaluated Class V children on the basis of minimum levels of learning in the state of Uttar Pradesh. The study reveals that the overall performance was below 50% in all areas. Their performance was higher on Language (Hindi) and Arithmetic tests compared to EVS. The difference in performance between Hindi and Arithmetic was not significant.

The study further reveals that mastery level which is accepted as 80% or above range was only attained by very few pupils; 2.1% of pupils achieved mastery level in Language (Hindi), whereas 0.6% and 5.8% of pupils achieved mastery level in EVS and Arithmetic respectively. 22.2% of pupils scored less than 30% of the total marks in Hindi whereas 34.9% and 25.6% of pupils scored below the same level in EVS and Arithmetic respectively. This meant that approximately one-fourth of the pupils could not even obtain 30% marks on the tests. 36.2% in Hindi, 44.5% in EVS and 35.3% in Arithmetic falls between the mark range of 30 to 49. 39.5% of pupils in Hindi, 20% in EVS and 33.3% in Arithmetic were also falls between the mark range of 50-79%. This implies that more than half of the total number of children who attempted the achievement tests had a performance level below 50%. Out of the 1980 children who attempted the Hindi test, only 2.1% achieved mastery level i.e. 80% and above range. In EVS, only 0.6% and 5.8% in Arithmetic attained mastery level in the test.

The further area-wise analysis of the score also reveals that in Language (Hindi), the performance was found lowest on the area of writing indicating that this skill was the least developed.

The weighted mean in the area of comprehension was about 47%. It was observed that wherever the answer could not be picked up directly from the passage and required the children to use their reasoning or imagination the performance was low (25.4%). This indicates that children attending these schools are at a loss when they have to attempt problems requiring divergent thinking, originality and spontaneity.

The performance of children on EVS test was found lowest on map-reading (10.3%) . The score were found highest on items relating to recall from day-to-day observations such as classifying means of transport or animals into the given categories.

In Mathematics test, children performed relatively well on item that required knowledge of one or two of the basic operation such as addition, subtraction, multiplication and division. They got lowest performance on the problem relating to fractions.

In this study, the sample studied constituted both boys and girls whereas there were more boys than girls in the schools and the ration of boys to girls is 5:4. There was no significant difference in the performance of boys and girls in Hindi. However, gender differences were observed on EVS and Arithmetic test with boys performing significantly better than girls.

Pradhan (1996)<sup>15</sup> assessed the learning achievement of minimum levels of learning in Mathematics for Class III in Orissa. The study reveals that only 15.13% children attained MLL in mathematics as against the desired level of 80% and the remaining 84.69% children attained below the MLL. The study also mentioned that the poor performance might be due to the following facts:

- (i) Promotion of students to next higher classes/Unit was not based on the mastery of learning competencies of preceding classes/units.
- (ii) Primary school teachers were not aware of the competencies implicit in the content they were dealing with and instruction either.
- (iii) Poor socio-economic background of children.
- (iv) Illiteracy of parents.
- (v) Norm reference testing strategy, etc.

The study also established that the difference of achievement on Mathematics between urban and rural schools, when compared, was found to be significant at .01 level in CR value of 5.69. The difference, when compared, between tribal and non-tribal children was also found to be significant at .01 level in CR value of 5.21. In this regard, the study agreed that tribal children differed from non-tribal children in many respects, e.g., language, communication, parent's education, socio-economic background, perception of life and education, etc. All these differences favoured non-tribal children despite various developmental programmes launched by the Government of Orissa to uplift the tribal and thereby to bridge the gap between tribal and non-tribal. Hence, the significant difference between tribal and non-tribal children may be attributed to these reasons.

A study conducted by Pedretty (1987) also revealed that minimum competency test scores in mathematics were significantly related to race: black students had significantly lower scores than white students. Although the study had been conducted in the USA, it supported the findings of some studies conducted in India.

Dave, et al, (1988) conducted a study on pupil achievement at the Primary Stage. The main objectives of the study were, (i) to study enrolment, retention and stagnation in the project schools (ii) to ascertain the extent to which the minimum learning outcomes (competencies) were developed in the pupils of the project schools exposed to the PECR package of materials in comparison with those who were not, and (iii) to investigate the relationship of pupils factors, school factors and socio cultural factors to pupil achievement in term of minimum learning outcomes (competencies) with regard to language, mathematics and environmental studies.

The overall results were: (1) Certain antecedent variables were significantly related to achievement of pupils at the primary stage, although their contributions to the predictive relationship varied. (2) The specific variable – Project and non-project – was related to achievement in all subjects except to achievement in language in Class I. (3) Achievement of the children in language was found to be excellent in Class I, good in Class II, better than minimum in class III and minimum in Class IV. (4) Achievement of pupils in mathematics was found to be excellent in Class I & II, good in Class III and poor in Class IV. (5) Achievement of pupils in environmental studies was found to be more than excellent in Class I and II. (6) Achievement of pupils in science was found to be slightly less than good in Class III and poor in Class IV. (7) Achievement of pupils in social sciences was slightly less than good in class III and a bit below minimum in Class IV. (8) The data indicated that there was a sudden slump in achievement of children in all subjects as they entered Class III, which continued through class IV. (9) The project means were greater than the

non-project means except in respect of language in Class I, and the lowest project mean was not less than the minimum percentage marks of 35. It was concluded that it was possible to raise the attainment level of children with the help of the better transaction programmes like primary education curriculum renewal. (10) It was evident from the data that achievement means in respect of subjects varied from state/UT to state/UT. It was also true that, at times, achievement means of pupils from Class I to IV within a state/UT were not consistent.

Today, we have several surveys by which learning outcomes were measured especially in developing countries; (i) the Monitoring Learning Achievement (MLA), (ii) the Latin American Laboratory for Assessment of Educational Quality (Laboratorio), (iii) the Programme for the Analysis for Educational System of the CONFEMEN Countries (PASEC), and (iv) the Southern Africa Consortium for Measuring Education Quality (SAQMEQ). In the past few years, more than 120 countries worldwide have participated in different surveys measuring in learning achievement and outcomes in different locations, grades and subjects.

Before WCEA (World Conference on Education for All) in 1990, and for nearly 50 years, measurement of learning achievements through surveys and other methods was a common practice especially in developed countries. They were instrumental in the process of initiating and implementing educational reforms in a number of western industrialized nations (developed countries). However, in developing countries in general, there was not a single regional survey, which measured improvement in learning outcomes prior to Jomtien, in 1990<sup>16</sup>. For instance, the 1999

Regional Monitoring Learning Achievement (MLA) survey, which was specially commissioned for indicators 15 of the EFA 2000 Assessment survey, was the first one of its kind in Africa which assessed the learner performance from the viewpoint of what is taught and learnt in and out of schools. At WCEA, measuring improvement in learning outcomes was given more than ever, a significant importance. Besides providing equality of educational opportunities in terms of access, system for measuring learning outcomes were strongly proposed to assist informed educational policy-making. Consequently, we have been given new insights by a new generation of national and cross-national studies into what pupils in primary schools in developing countries know and are able to do. Some of these studies also provide valuable background information on the context in which learning takes place and discuss factors that contribute to quality teaching and learning. This chapter will focus on the findings of such studies at the national and cross-national situation.

The SACMEQ (Studies undertaken by Southern Africa Consortium for Measuring Educational Quality) project was undertaken by Ministries of Education in co-operation with the international Institute of Educational Planning (IIEP) of UNESCO. The SACMEQ reading literacy study conducted in five countries of southern Africa in 1998, namely, Zimbabwe, Mauritius, Zanzibar, Zambia, Namibia, found that pupils were generally performing poorly when judged by the standards of mastery set down by the respective ministries' own reading experts and selected Grade 6 teachers. In only two of the five studies, Mauritius and Zimbabwe, did at least half of their pupils attain the minimum level of reading fluency, and

only in Zimbabwe did at least a third of pupils attain the desirable level. With the exception of Mauritius, where Grade 6 pupils correctly answered 53% of the test items, none of the countries reached the level of 50% correct. Researchers also defined an 'illiteracy rate' as the proportion of pupils scoring lower than the score most likely to be obtained by a pupil who guessed on all fifty-nine items. In the cases of Namibia and Zambia, 20% of all pupils qualified as illiterate. SACMEQ researchers also found major differences in reading between urban and rural areas except in Zambia.

Under a joint UNESCO-UNICEF's Monitoring Learning Achievement project, studies of learning achievement are also being carried out in forty developing countries in Africa, Asia, the Arab world, the Caribbean, Europe and Latin America. In Nigeria when researchers administered cognitive tests of literacy numeracy and life skills to fourth grades as part of the Monitoring Learning Achievement project, the results were described as 'generally poor'. The mean percentage of scores was 32 per cent in numeracy, 25 per cent in literacy and 33 per cent in life skills. In one test item pupils were instructed to copy a five-line passage into a given space. Only 8 per cent of them were able to do so accurately, and 40 per cent were unable to copy a single word or punctuation mark.

In the study of schools in thirteen Latin American and Caribbean countries, researchers from the Laboratorio, with UNESCO sponsorship, concluded that, with the important exception of Cuba, achievement differences between the nations' were not highly significant. The scores were distributed around the mean with a standard deviation of 50. The graph of the study showed that, Cuba excepted, there were no



significant differences in terms of the mean and range of test achievement scores among the Latin American countries with regard to Grade 3 language even though the distribution of the results shows a relatively high heterogeneity within the various countries. Similar results were observed for Grade 4 language and mathematics.

The data from the study at different areas showed that, in addition to wide overall fluctuation in achievement levels between various regions of a country, there were usually important disparities among different groups of pupils and between various types of schools. The most frequently cited disparities involved three factors, i.e., socio-economic status, location and types of school.

Several studies including the study taken up by Rao, et al (2001)<sup>17</sup> reported that Socio-economic status in terms of income, parental education and home environment significantly influenced learning achievement of pupils. In other words, pupils who belonged to high socio-economic status (SES) as measured by factors such as family income, parental education and books in the home consistently scored better on measure of achievement than pupils from low-SES families. This is a pattern that applies to countries of all kinds, including developed nations that have taken steps to guarantee equal educational opportunities for all.

As per the result of the study conducted by International Association for the Evaluation of Educational Achievement in 1994-95 amongst 24 developed countries on the mathematical section of TIMSS (Third International Mathematics and Science Study), the mean achievement levels of pupils with different levels of parental education

continues to be an important source of disparities in pupil achievement in Mathematics. SACMEQ Policy Research report also shows that pupils in the high SES group consistently outperformed those in the low SES group in reading achievement<sup>18</sup>.

Kanwar (1989) conducted a study concerning to socialisation practise at home and at school and development of personal achievement motivation among Secondary school in Assam. He observed that high socio-economic status (SES) group boys and girls showed higher scores than the low SES groups. Karat (1991), conducted a study on mathematical education and found that causes of failures in S.S.C Examination of Marathi Medium High school students who had failed Mathematics were found poor intelligence, poor numerical ability, poor comprehension, poor recall ability, no interest in Mathematics, poor study habits, lack of help from parents and teachers. The study on aptitude of mathematics amongst boys and girls conducted by Khaton (1988) revealed no significant difference in the aptitude for mathematics amongst boys and girls but significant difference in achievement. Vasanthi (1991) also observed in his study that mathematical learning ability was greater among monolingual than in bilingual students and mastery level achievement (MLA) also depended on type of school. Other study conducted by Yadav (1980) revealed that age, SES and school environment had significant effects on concept formation in geometry. At primary stage age was the most important factor, SES came next and school environment is the least important. At middle school stage, school environment was the most important, SES came next and age came last.

Data from developing countries frequently showed that boys had an advantage over girls in areas relating to access to education, including retention and drop-out rates. The study conducted by UNESCO-UNICEF on Monitoring Learning Achievement (MLA) over 40 developed countries confirmed that the variation in ability and achievement between sexes was small when compared with the variation within groups of the same sex. This is confirmed by the most recent MLA studies in eleven African countries<sup>19</sup>.

A PASEC study in the Cote d'Ivoire found that in Grade 2 boys performed at a higher rate in mathematics and girls in language (French), but both gaps narrowed as pupils approached the primary school exit point of Grade 5. The Zimbabwe study of reading literacy among Grad 6 pupils found no important differences in the performances of boys and girls except for the rate of 'illiterates', where boys had a statistically significant edge over girls in. In Mozambique, MLA researchers found that boys did better than girls, especially in rural areas. Data from the Laboratorio show that, with the exception of Paraguay, girls performed consistently better than boys in language,. In Cuba, the Dominican Republic and Honduras, they also performed better than boys in mathematics. The Laboratorio Project is a network of assessment system under the sponsorship of UNESCO in eighteen Latin American countries and the first study was carried out in 1977.

In an analysis of results from the SACMEQ (Southern Africa Consortium For Measuring Educational Quality) undertaken by Ministries of Education in Cooperation with the International Institute for Educational Planning (IIEP) of UNESCO) studies of grade 6 reading literacy in southern

Africa, Mioko Saito found no significant differences between boys and girls in reading. She noted contradictory findings of various studies and suggested that the issue of gender differential warranted further study. Saito added, however, that whatever these differentials may be, their significance pales in comparison to differentials of regions, school location and socio-economic status. Saito concluded 'that at the primary level, the differences between regions, socio-economic groups and school locations were much more important than gender differences.

A number of studies over the years have found that female primary and lower secondary school pupils do better than males in language-related subjects, while the reverse is true for mathematics and science. Findings from more recent studies, however, show that these gender differences that are clear in the first years of schooling have a tendency to become reduced as pupils move to higher grades.

The IEA Reading Literacy study, however, undertaken in 1990 and 1991 reported that girls outperformed boys in all participating countries. The IEA's first international science study also found not only that boys outperformed girls in the sciences but that the gender gap widened as pupils moved to higher grades. Sex was found to be a weak predictor of science achievement in seventeen countries, three of them developing nations. Gender contributed only two percent of the total explained variance in science achievement, though the impact was much more significant in the developed countries. The second International Science survey found that boys outscored girls at all levels.

In Mali boys did slightly better than girls in all three subjects and urban pupils of Grade 4 generally performed better than their counterpart in rural areas. However, rural pupils of Grade 8 performed better than urban pupils especially in numeracy and life skills/science.

According to the EFA Report 2000 Assessment, MLA Project, pupils in urban areas performed, on average better than their counterparts in rural schools. The reasons generally given include the fact that big cities and, to a lesser extent, mid-sized urban areas have relatively large proportions of high-SES families. Schools in such areas often have been better and are in a favourable position to attract good teachers. With some exceptions - pupils in isolated areas of Namibia did better than their rural counterparts - the finding tends to show a clear pattern of declining achievement as the setting moves from high to low population density.

There are, however, many exceptions to generalizations about school location. The Laboratorio Study of thirteen Latin American school systems found that some rural schools in Colombia outperformed schools in both large and mid-sized urban areas.

In all the MLA surveys in Africa since 1992, the result clearly shows that urban school children outperformed rural school children overall and in all learning areas.

Most national assessment data show that, on average, pupils in private schools tend to perform at a higher level than those in public schools. Explanations usually include the fact that parents who send their children to private schools tend to have higher income and educational

backgrounds, and that private schools often have better physical and human resources.

The MLA researchers in Mali looked not only at public and private schools but at community-based fee-paying schools and at madrasas, (privately supported schools that use Arabic as the medium of instruction). They found that the public schools and madrasas were the least efficient. Similarly, the MLA study of Jordan found that private school pupils outperformed those in schools run by the Ministry of Education in all four subjects measured.

Once again, however, such performance patterns are by no means universal. The Laboratorio research found exceptions in Bolivia, Venezuela and Honduras. The data from this study confirm the general conclusion that urban pupils score higher than rural ones, although the margin of difference varies from modest in Botswana and Malawi to quite dramatic in Madagascar. The data also show that in almost half of the cases, the mean scores for girls were higher than those of boys.

Comparisons of pupils in private and public schools show that in almost all cases the privately schooled children did better. A conspicuous exception was Mauritius, where public school students had higher scores in all three subject domains.

The results indicate that the highest performance in literacy is found in vocabulary, number in numeracy and civic & Environment in Life skills. The lowest performance is found in writing in literacy, measurement in numeracy, Science & Technology in Life Skills.

Kumudhavalli's (1999) study depicted that (1) the profile of the two groups of children in relation to family background revealed that parents of children studying in English medium had better education and income than the other group (2) The two groups did not differ significantly in the aggregate marks scored. But English medium children had performed better in mathematics and Gujarati medium had scored higher in EVS (3) Both the groups scored lower in the examination as they progressed to higher standards (4) The aggregate scored in the adjustment inventories showed no significant difference between the groups.

Rawat (1987) reported that the academic achievement was significantly better when the comparisons were made for the total sample with respect to sex, age and grades. The Jorhat District study (Sarma, et al., 1991) disclosed that a significant correlation existed between the achievement of cohorts or Classes III and IV. Regular attendance and academic achievement correlated. However, no correlation existed between physical facilities and academic achievement.

There were 7 (seven) studies during 1990s which attempted to study sex as one of the correlates of Mathematics achievement. Two studies found boys performing better than girls (Hota, 1995<sup>20</sup>; Mukherjee, 1997<sup>21</sup>). Another two studies revealed girls doing better than boys (Paria, 1996<sup>22</sup>; Pal and Nataranjan, 1997). In another three studies, no such significant difference was observed (Wangu and Thomas, 1995; Chakraborty, 2000; Nagalakshmi, 1996<sup>23</sup>). Patel (1997) also found SES level of parents had a large impact on the achievement. Nagalakshmi's (1996) study depicted that

SES facilitated problem solving ability while Srinivasan (1999)<sup>24</sup> did not find any such relation.

There were 5 (five) studies which have attempted to correlate ability and mathematics achievement. Rangappa's (1993)<sup>25</sup> study showed that higher the level of reading ability higher the level of achievement in Mathematics. It is distinctly clear from these studies that different abilities i.e. reading ability, numerical ability, problem solving ability, arithmetic reasoning ability. Verbal reasoning ability and comprehension ability are directly related to higher performance in Mathematics (6thSERp.364).

The study conducted by Singh, et al (1994, Sumangala (1995)<sup>26</sup>, Wangu and Thomas (1995)<sup>27</sup>. Thamparathy and Devi (1994)<sup>28</sup> and Panchalingapa (1995) showed that poor attitude towards Mathematics was a cause for underachievement. In other word, attitude did play a very significant role. Basavayya's (1995)<sup>29</sup> study also reflected that students' perception of mathematics among class IX students positively correlated to mathematic achievement. Majority of students were not happy with existing facilities for teaching mathematics. This implies that there is a need to develop love and positive attitude towards mathematics. A conducive environment is equally necessary for teaching learning mathematics(6thSER,p.364).

Kothari (1977)<sup>30</sup> studied MLL based approach in teaching mathematics among class V. It was depicted that the absence of methodical approach was one of the factors responsible for low achievement in mathematics. Shivaprasanna (1993)<sup>31</sup> found that the three main areas of problem of mathematics teachers were personal, administrative and



students. Nalage's (1997)<sup>32</sup> study also reflected that teaching mathematics was more effective when it was done with the help of teachers handbook

The study of Sapre (1993)<sup>33</sup> reveals that (1) Training for mastery over theory and planning in both the skills is effective in improving GTP and skill performance (2)Mastery over theory helps in acquisition of narration skills while mastery over planning helps in acquisition of reacting skills (3)There was an interaction between nature of skill and training strategy.(4)For effective acquisition of open skill, mastery over planning was essential.(5) Dimensions of openness-closeness from the three dimensional structure of teaching skill was valid. (6)Divergent operations were involved in learning skills.

Shah and Darji (1966) presented reports of their investigations identifying the academic causes of backwardness in mathematics, social studies and general attainment. Puranik (1969)<sup>34</sup> studied academic backwardness in Nagpur schools. The SCERT, Andhra Pradesh (1976), investigated the causes of poor results of common examinations at seventh grade level. Sharma (1978) studied the academic progress of children in Sibsagar district of Assam and Desai (1985) investigated problems of learning among primary school children in Gujarat . Devi (1985) has analysed the barriers that exist in the school achievement of scheduled caste students. All these studies indicated that conditions in schools were far from satisfactory, the methods defective, teaching unplanned, textbooks inadequate, examinations subjective , teacher inefficient and parents non-supporting.

Fennema, et al (1977)<sup>35</sup> conducted a study to examine the existing traditionally accepted belief that males achieve better in mathematics than females (Glennon & Callahan, 1968; Maccoby & Jacklin, 1974). Sometimes the difference is attributed to underlying ability and other times it is attributed to a social climate that does not encourage girls to study mathematics. The two scholars tried to re-examine the validity and/or generality of such beliefs about differences between sexes. In their study, information was gathered about mathematics course enrolment, 589 females and 644 males 9th - 12th grade students from all public high schools in Wisconsin where the study was conducted. The data from the study do not support either the expectation that males are invariably superior in mathematics achievement and spatial visualization or the idea that differences between sexes increase with age and/or mathematics difficulty. The fact that half of the groups of students enrolled in mathematics did not show sex-related differences on these two variables can probably be attributed to better control of mathematics background in the study than the previous study (Fennema, 1974; Sherman, 1975). The sex-related differences were small and score distributions overlapped considerably. The pattern of differences in mathematics achievement, spatial visualization and affective variables strongly suggests the influence of socio-cultural factors. The study report was concluded that long accepted beliefs about the validity and importance of sex differences need re-examination in a variety of ways. The data from the study certainly indicate that many females have as much mathematical potential as do many males. Therefore, the generalized belief that females cannot do well in mathematics is not supported by the study.

The National Child Development Study (Devie, et al., 1972) also found that although to a lesser degree, differences in attainment in mathematics were also found between the two groups, with, as in reading, the gap widening at age 11.

Another academic variable of the study has been reading ability and its contribution to school achievement. Jain (1981) conducted a study on the impact of silent reading comprehension ability on achievement in various subjects. Socio-economic conditions and relate variables also play a significant role in success at school. Shukla (1984) studied students' achievement in relation to socio-economic status and size of the family. Deshpande (1985) conducted a specific study on language ability in relation to deprivation suffered by children at home.

The National Child Development Study (Devie, et al., 1972) also found significant class difference in attainment. Children from social class category 5 (unskilled), for example, were found to have five times more reading problems at age 7 than children in category (professional and managerial) with the difference doubling by age 11.

The follow-up study of the cohort found that by age 16, three-quarters of the children in category 5 had reading and mathematics scores that were below average (Essen and Wedge, 1982). The Child Health and Education Study (Osborne and Milbank, 1987) repeated these findings and provided further evidence that at age 10 the most socially disadvantaged children were significantly behind in their reading compared with those who were in most advantaged category.

The Junior School Project (Mortimore et al, 1988), a longitudinal study of a cohort of 7-years old pupils in 50 London primary schools revealed significant differences in children's educational outcomes during the junior years. Age, social class, sex and race were each found to have an impact on cognitive achievement levels at age 7 and 11. For example, at age 7, those children whose parents worked in non-manual jobs were nearly 10 months further ahead in reading than pupils from unskilled manual homes. By the end of the third year, the gap had widened. Overall, the project found that of age, sex, race and social class, it was the social-class dimension that accounted for the main difference in attainment between groups of pupils.

A key finding in this study was that pupils' level of reading at age 7 was a good predictor of their level of attainment at age 11. Subsequently, the progress of the same cohort of pupils in the study was tracked to year 10 (age 16) and their outcomes at GCSE analyzed (Sammons et al, 1995b)<sup>36</sup>. The reading predictor at age 7 proved to be an equally accurate predictor at age 16. A relationship was revealed between the level of reading at age 7 and the level of achievement in examination at age 16. Despite four years of secondary schooling, the primary effect had not been washed out (Mortimore, 1995)<sup>37</sup>. Therefore, it is evident from the study that reading achievement at primary stage is a strong predictor of later learning achievement.

There is a growing body of research evidence which reveals the needs to intervene early when children are experiencing difficulties in learning to read (Sylva and Hurry, 1995). There are also findings that indicate the long-term consequences of poor literacy standards for society at

large (Hamilton and Davies, 1993), not least in respect of crime (Crime concern, 1993) and the cost to industry (ALBSU, 1993). The study also reflected Wasik and Slavin' study (1993) which reviewed a wide range of early intervention programmes in the United States whereas they came to the conclusion that intervention in the early years of formal schooling led, in most cases, to some improvements in reading. In New Zealand also, a longitudinal study of successful practice in the teaching of reading in the early years was conducted (Clay, 1982) whereas the philosophy underpinning the programme is that there will always be children, from both advantaged and disadvantaged backgrounds who find learning to read difficult for various reasons. These children are likely to be the hardest to teach.

The study of MacGilchrist (1997)<sup>38</sup> also discussed that low standards of achievement in reading can have long-term consequences and amongst the causes of such low standard of achievement, following are prominent - under-expectations, low self-esteem, lack of active parental involvement and a prevalence of social and environmental problems. The study also pointed out that in HMI (Her Majesty's Chief Inspector of School) published report on reading (DES, 1990), the common characteristics of those schools achieving high standards of reading were identified and concluded that such factors as the socio-economic background of the pupils, teacher turnover and resources did not hinder progress with anything like the same force as weaknesses in the management and organization of reading within the class and within the school as a whole. Consequently, new requirements for the initial training of primary teachers were introduced

in 1993 (DFE, 1993). As from 1996, all primary courses must adhere to these requirements, which include new criteria for the teaching of English and, in particular, the teaching of reading.

To summarize the study of MacGilchrist, the main findings and initiatives concerned with reading and achievement may be given as follows:

- (i) There is significant differences in school performance between pupils from advantaged and disadvantaged backgrounds and such differences emerge early in the primary school and the gap widened as children move through the education system.
- (ii) Lack of progress in reading and, to a lesser extent in mathematics, is a key indicator of underachievement and it was evident that by age 7, children from very disadvantaged backgrounds have five times more problems with reading compared with their more advantaged peers.
- (iii) Progress in reading at school in the early years has been shown to be a good predictor of later achievement at age 16.
- (iv) The reception year has a major impact on the literacy development of children. The quality of teaching in the reception year, therefore, is identified as being of crucial importance.
- (v) Schools can make a difference; they can break the relationship between disadvantage and underachievement in reading. The combination of early assessment, early intervention and structured teaching by well-trained teachers has a significant impact on pupils' early progress in reading and their later academic achievement.
- (vi) Short-term, uncoordinated initiatives to raise standards do not work.

(v) To combat underachievement in reading, a long-term, system-led strategy, nationally coordinated and locally managed, is required.

(vi) All the evidence points to the fact that learning to read is so important that it cannot be left to chance. It is a basic entitlement for all pupils. Cognitive and psychomotor abilities of children can be nurtured through primary school experiences. Chottopadhyaya (1971) investigated developmental problems relating to nine different aspects of common skills among nursery and primary schools children of Warangal. Reddy (1971) investigated the development of causal thinking and concept of life among children in grades I-VI. Basu (1977) studied the development of concepts of weight, number and energy among urban and rural in grades III-V. Arya (1981) also investigated development of the concepts of weights, volume classification and association among children in the age group 6-10. Manika (1983)<sup>39</sup> investigated acquisition of concepts in mathematics in relation to personal and environmental variables. Rath (1972) studied the cognitive manifestations of certain caste groups – Brahmins, scheduled castes and scheduled tribes children. While the Brahmins children were consistently better in verbal abilities and concept formation, the tribal children were ambitious and vigilant. Banga (1980) investigated the cognitive processes of classification and variation along with personality characteristics of boys and girls in English and Hindi medium schools of Jodhpur. Padhy (1986)<sup>40</sup> studied the development of logical thinking ability and adjustment of school children.

The study of Agarwal and Raj (2004)<sup>41</sup> revealed that (1) higher the self-esteem higher the school performance (2) Children given psychological intervention proved to be better in their school performance.

Reddy's, et al (2001)<sup>42</sup> study depicted that (1) There was a significant effect on few dimensions of teaching strategies such as preparation of lecture; use of audio-visual aids, feedback and enquiry methods. (2) Teachers having higher qualification and training used more teaching strategies as compared to less qualified teachers (3) Professional training, i.e. SGBT, B.ED, M.Ed had a significant effect in use of teaching strategies like feedback, classroom management, expository, discussion and participative dimensions. (4) Teachers' professional qualifications also had a significant effect on some of teachers' personality variables and these variables were adaptable, imaginative, nurturance, endurance, accepting and responsible. (5) Teachers with B.Ed training were less imaginative, less accepting and less responsible than teachers with other professional training (6) Private and aided schools were using more participative and knowledge-oriented approach i.e. discussion method. (7) Teachers in private and aided schools had higher level of teacher involvement, i.e. social warmth than government schools, which also resulted on higher achievement.

A survey study conducted twenty years ago by the BMC (1966), besides identifying the professional needs and physical facilities for teachers, sought reorientation of the educational systems at all levels and a complete change in the outlook of the society from pursuing wealth and affluence to seeking the right human value. Studies by Paranjape (1970) conducted in Maharashtra and by Thakur (1978) conducted in Assam deal



with problems, difficulties and working conditions of teachers. Women teachers of Maharashtra found it difficult to play their dual role (home making, job), but the teachers of Assam felt that they were able to play their dual role successfully. However, they faced many problems and difficulties in this regard. Two studies, one by Agrawal (1969) and the other by Bose, Banerji and Mukherji (1972), have studied the teaching competence, intelligence level, academic qualifications, liking for teaching profession and the average time which a teacher devotes daily to teaching. Roy (1975), who conducted a sociological survey of primary teachers, found that more women were attracted to teaching as this occupation gave them more social prestige though opportunities for promotion are lacking. MSBTPCR (1974) made a study of the background of mathematics and science teachers and studied their opinions regarding the syllabus introduced in 1974. The study revealed lack of adequate professional background of science and mathematics teachers and also that they did not favour teaching of new mathematics. Gupta (1981) studied job involvement and need pattern of primary school teachers. Teaching in rural and urban areas was studied in relation to teaching effectiveness. Naik (1981) made a comprehensive survey of teachers working in primary schools of Pune. A larger proportion of teachers taught all the subjects in aided schools than did so in corporation schools.

### **2.2.2 Research Studies Relating to Learning Inputs:**

In regard to school facilities and input component, the Baseline Study conducted by NCERT (2006)<sup>43</sup> reported that safe drinking facility was available in approximately 73% schools. Separate toilet for girls was

available in less than 40% schools. Computer and TV were available between 8% to 16% schools. Average number of working days in schools in the States/UTs was approximately 213 with seven periods of 40 minutes each. Percentage of female teachers was twice more than male teachers in urban schools. Average number of teachers per school in urban schools was higher than in rural schools. Average pupil teacher ratio was 39:1 which was almost same in both urban and rural areas. Approximately 62% teachers were diploma/certificate holders in primary/elementary education. Majority of teaching aids were available to more than 85% teachers.

In Kerala, the Baseline study found that average number of working days were about 186 in a year. Approximately, 70% fathers and 44% mothers were literate. Majority of mothers were housewives both in urban and rural areas. Number of female teachers was more in rural than female teachers in urban sampled schools. TVs was available in 22% schools. Female teachers were more than male teachers as a whole. Average teachers per school were 16. Nearly 1/10th of the teachers were PG Degree holders. Approximately, 12 % teachers were B.Ed degree holders. Female teachers were professionally qualified than male teachers.

The same study of NCERT (2006) also reflected that in Manipur, average number of working days in schools was approximately 209. Percentage of female teachers was higher than male teachers in urban schools. Average teachers was 8 and 11 in rural and urban respectively whereas the average was 9 as a whole. Pupil teacher ratio was 1:28 as a whole in the State. Percentage of male teachers with qualification below Class X was 0.94% whereas 2.78% in female teachers. 11.68% teachers

were class X passed and 19.86% teachers were Class 12 passed. 60.98% teachers were graduate degree holders and 6.07% were PG degree holders. Majority of teacher had diploma/ certificate in Primary/Elementary Education and very few male teachers were having M.Ed. degree. There were 4.11% of B.Ed Degree holders and 0.40% were M.Ed degree holders.

In Mizoram, the Baseline Study also observed that computer was available in only 2% schools. Average number of working days was about 196 in a year. Pupil-teacher ratio was higher in urban schools as compared with rural schools. Approximately, 1% teachers had qualification below Class X. The number of male teachers having qualification below Class X was higher than female teachers teaching in all subjects at primary level. Approximately, 98% fathers and 95% mothers were literate. Majority of mother were agricultural labour and domestic servant in rural and urban areas respectively. Not a single female teacher was below Class X passed. PG degree holder of male teachers who studied Mathematics, Language and Social Science were more than female teachers. Majority of teachers had diploma/certificate in primary/elementary education. Parents' education helps students' achievement in EVS and Language.

The fifth All India Educational survey (NCERT, 1992) reported the increase in access to schooling facilities from the time of the fourth All India Educational Survey. The highlights were: (1) 94.60% rural population was served by primary sections located either within the habitation or up to a walking distance of one km as against the 92.82% population served in 1978; (2) However, only 13.25% habitations covering 36.98% of the rural population had upper primary schools or sections within the habitation of

residence. The corresponding percentages for the fourth Survey were 10.74% and 33.74%, respectively. (3) The percentage of pucca or partly pucca primary school buildings increased from 59.90% to 72.75%, a substantial increase indeed. Batra (1991) conducted a socio- psychological study of children in Classes I and II in Betul District of Madhya Pradesh. She reported poor state of school buildings and lack of teaching materials and aids in the primary schools. Bhargava, S.M. (1990) covered a span of 40 years of the growth of educational facilities at the elementary stage in India. However, he made state-wise analyses of the growth of primary education only from 1975 to 1986. The findings were: (1) Educational facilities grew steadily and substantially, i.e. from 59.75% in 1957 to 80.34% in 1986; (2) Educational facilities for girls and ST and SC improved remarkably, i.e, from 38.5% in 1978 to 74.46% in 1986; (3) Middle stage education facilities increased from 3.13% in 1957 to 13.25% in 1986, with one km distance from school being the criterion. In spite of this, UEE still remains a distant dream. Buch and Sudame (1990) carried out an indebt study of the status of primary education in selected urban areas in Gujarat. Their conclusions were: (1) A large number of primary schools, irrespective of their managements, faced shortage of space; (2) Many of them were located in areas that were prone to heavy traffic and noise pollution; (3) The location of some of these schools was in unhealthy surroundings and even frequented by anti-social elements; (4) Many primary schools did not have their own buildings and conducted classes in rented buildings; while most of these schools had provision of drinking water, some of them lacked toilet facilities, libraries and laboratories. Through a well-designed case study of

primary schooling in Madhya Pradesh, sponsored by IIEP, Paris, Govinda and Verghese (1991) derived the conclusion that the level of infrastructure facilities provided in the schools played an important role in improving the teaching- learning environment and consequently, the learners' achievement level as well as overall school quality. Gupta and Gupta (1992) investigated the extent of utilisation of the equipment and educational materials supplied to primary schools in three states, viz. Gujarat, Rajasthan and Tamilnadu, under the centrally sponsored Operation Blackboard Scheme (OBS). They reported that: (1) 83.8% of the schools had two all-weather rooms and 55.6% of schools had verandas whereas only 9.7% of schools had toilet facilities; (2) While 46.2% schools had at least two teachers, 20.4% had more than two teachers; (3) The female teachers constituted less than 50% of the total teachers; (4) The majority of the schools received the educational materials although the percentage of items received differed from item to item, i.e., 56% (syllabi) to 99.5% (mathematics kit- the receipt of newspapers and magazines 0.00% being an exception); 5. The majority of the teachers (93.5%) was using the materials supplied; and they opined that these supplies would help improve enrolment, retention and achievement level of pupils . Hassan (1992)<sup>44</sup> reported that while physical facilities in schools, especially in rural schools, were inadequate, teaching conditions of schools were considerably good in four districts of Bihar. Naik (1992)<sup>45</sup> reported that there was a substantive, quantitative expansion of primary education in the tribal district of Sundargarh. Packkiam (1990)<sup>46</sup> investigated the implementation of OBS in Sakkottai Panchayat Union, Tamil Nadu. The conclusions of the study were: (1) 83% of primary schools

did not have adequate physical facilities; (2) The OB materials were utilised the classroom teaching materials, i.e., primary science kit, library books and classroom equipment to a greater extent than their counterparts in the government primary schools. There was no significant difference between these two groups in the use of play materials, mathematics kit and musical instruments. Ralte (1992) reported that only 55% of the schools had properly partitioned classrooms. Store room, students' common room and library room, etc., were almost non-existent. Sarma, et al, (1991) studied primary education problems in Jorhat District of Assam. Their conclusions were: (1) Lack of physical facilities at school was a major problem; (2) In 81.0% of schools, no teaching aids were available. The same team of researchers undertook a similar study to identify the problem of the upper primary stage, i.e., Classes VI to VIII. The major findings were that these schools were much better off than the primary schools with respect to physical facilities and teaching aids, i.e. 74% had permanent buildings as well as blackboards (BBs), 57% had urinals, (exclusive of 16% latrines), 44% had drinking water facility, 68% had teaching aids, 58% had playgrounds and 68% had a game teachers. Sarma (1992)<sup>47</sup> studied the problem of the children of the tea garden Labour Community. Her major conclusion about the physical facilities was that the overall conditions were far from satisfactory, for 80% had a single hall with no partition between classes, 90% had no urinals or latrines and 60% had no provisions of drinking water facility; few schools had an adequate number of desks and benches. Sharma (1992) conducted an evaluative study of non-formal education in U.P. She concluded that the majority of learning centres

(62%) were located according to the convenience of the learners. However, the provision of physical facilities was not fully satisfactory since only 20% of centres had good physical facilities whereas 46.6% were working in adequate conditions; but 50% were functioning without textbooks or learning materials, stationery, etc.

What major trends are discernible? First, conceding the fact that a very limited number of studies are at hand, and that too mostly from the Eastern region, the conclusion is inescapable, that the infrastructure facilities are woefully inadequate in our primary schools. It is pertinent to point out here that the 5<sup>th</sup> NCERT All-India Survey (1991) presents a much better picture. Nevertheless, the results strongly suggest that so far as the provision of infrastructure facilities is concerned, the situation has hardly changed since a constitutional pledge (Article 45) was made to provide free and compulsory education for all children until they complete 14 years of age at the time of approval of the Constitution by the Parliament (26 November 1949). The knowledge that provisioning in the urban schools of Gujarat was no better than that in rural schools comes as a rude shock, thereby showing how the situation regarding access to primary education has been deteriorating in spite of pledge after pledge made by the successive governments both at the central and state levels. Even the depleted provision gets more depleted when it reaches the disadvantaged section of the society as the dire situation in the Tea Garden Labour Community indicates. It will not be an error if one infers from the study in India the access to school education becomes better as the stage of education is the best while the same at the primary stage is the worst.

The upside down pyramid of education has not only remained stable but also seems to have been strengthened in the post independence era. Fortunately, India has established a tradition of carrying out periodical census surveys of education. While scholars and policy makers have taken serious note of the all India survey data and the central government has initiated some actions, like the implementation of the OB scheme throughout India, though belatedly, one hardly sees any notice taken of the data available or any initiative and action taken at the state level. The fact of the matter is that statistical data collected by utilising scarce personnel and finances at the grassroots level remain buried in the official cupboards in the states of the Indian Union. More disappointing, if not depressing, is the fact that the academic community at the University and at other research institutes, has also not exploited the available data, nor have the policy makers used it for creating an equitable distribution of resources. In other words, the policy makers did not utilise the available information for the need-based planning at the micro level. It is needless to emphasise the need for undertaking systematic census as well as sample surveys and making efficient use of them for micro and macro planning of education in the country.

Next, the studies on the implementation of the OB scheme clearly indicate that the provision of educational facilities is welcomed by the teachers, and they believe that these facilities would help in attracting, retaining and raising the achievement level of children. These preliminary studies are encouraging, and they suggest an urgent need for undertaking in-depth studies in each and every state to find out the exact status of the



receipt of materials, and not only the extent of their use by the teachers but also their impact on the enrolment, retention and achievement of pupils. An independent scholar cannot help commenting upon the negligence of the planners of the scheme for not acting on the built-in monitoring and evaluation components in a multi-crore-rupee funded massive scheme like this. A follow up scheme like this cannot be left to the will of individual researchers or research institutes. Each state obtained a huge grant from the Government of India and, therefore, both of them owe an answer as to the fate of the grant as also to whether the objective underlying the scheme were achieved or not. One hopes that the next Survey of Research will have many studies on the implementation of this scheme. The OB scheme and its implementation apart, the very assumption that equipping primary schools with essential educational materials would help in enrolling, retaining and enhancing the achievement of pupils, needs the backing of adequate research evidence, when the scarce financial resources are diverted to it.

Further, a lone study on non-formal education suggests that the infrastructure, especially regarding the availability of educational materials, is in no way better than that available in the regular schools. If the underlying assumptions of the OB scheme are valid, one wonders how the expansion of the non-formal sector without such facilities would help achieve the goal of UEE. Unless the government ensures the equitable distribution of resources between these two sectors, as has been time and again pleaded by the protagonists of this sector (Dave,1992), its contribution to UEE will be suspect to the public, thereby strengthening the

very opinion that second-rate education is being imparted to second-rate citizens.

Recalling the emerging concept of basic education, one cannot help commenting that the physical aspect of the Learning Environment leaves much to be desired in India. A one-time intervention like the OB scheme may not bring permanent benefits to primary schools. Continuity of assistance, and what is more important, the efficient management of the assistance is the need of the hour. That a conducive learning environment would have a salutary effect on the learner, cannot be disputed. It is beyond one's comprehension as to why such pitiable infrastructure conditions should exist even after more than four decades of independence, and more particularly when there exists in almost every town and city an enviable, posh private schooling facility. Inequitable and discriminatory distribution of education facilities is certainly not compatible with good democratic governance. There is no denying the hiatus existing between the haves and the have-nots. This is the green area for further research.

The findings of the study conducted by Verghese (1995)<sup>48</sup> shows that (1) Of the 43 government schools 37 (86%) had either poor facility or no facility. (2) Of the 16 private schools, 15 (94%) had either good facility or very good facility schools (3) The achievement scores showed a systematic improvement with improvement in the facilities of the schools (4) The difference in mean achievement scores between the learners in the least facility schools and the best facility schools was very large in both Hindi and mathematics.

Chandrasekhar and Kumar (2006)<sup>49</sup> found that (1) Student studying in the state where non-detention policy is in practice performed better in mathematics than their counterparts studying in the states where detention policy is followed (2)The performance of students studying in the states where non-detention policy is being followed was better in language than their counterparts studying in the states following detention policy. They also Suggested from their study that there is need for establishing a mechanism, which should rigorously monitor the implementation of the policy. Diagnostic and remedial teaching should become an integral part of teaching-learning process.

Textbooks, as tools for curriculum transaction and improvement, have also been studied through research. The MSBTPCR (1974) conducted a statistical survey on the use of textbooks in classes I to VII. Another survey on textbooks was conducted by Kumari and others (1980) on the use of mathematics textbooks in Haryana. Three studies have been evaluated in specific subjects in mathematics by Walvakar (1971); in Hindi by Chaudhary (1976) ; in environmental studies by the SCERT, Andhra Pradesh (1980) and one specific study has been conducted by Kurup (1984) who made linguistic and content analyses of Malayalam readers.

Curriculum development in general requires development of specific curricula in various area. In the area of language learning, development of graded vocabulary is one aspect which has emerged attention of the researchers only recently. Gupta (1983) investigated basic

Hindi vocabulary in Jammu & Kashmir, Bhanushali (1985)<sup>50</sup> in Bombay; and Edke (1986)<sup>51</sup> developed a graded vocabulary for grades I – IV.

Another area in curriculum development which has gained attention is the use of educational television (ETV). Seth (1983) studied the importance of ETV whereas Singh & Singh (1984)<sup>52</sup> conducted two projects on the need, utilization and evaluation of ETV in Orissa. Three studies have been conducted on curricular aspects. The study by Sharma (1979)<sup>53</sup> is on the scheme for health education in primary schools; another by Veeraswamy (1985)<sup>54</sup>, is on play festival programmes in elementary schools and the third by Kapur (1986)<sup>55</sup>, is on moral education. Besides these, studies in related curriculum areas were also undertaken. Das (1974) studied the importance of physical conditions and facilities on the attainment of children at primary stage.

### **2.2.3 Relevance of the Present Study in Relation to the Studies Reviewed:**

The research literatures under review ranges from the study of Shah & Darji in the year 1966 to the study of NCERT in the year 2006. A review of researches under study reflects that most of these studies were conducted in various states of the country and countries of the world to highlight the conditions of primary education and learning problems confronted by them. Although majority of the studies directly or indirectly related with the present study, the main lacuna in all these studies is that they did all this without analysing the status in the light of the desired minimum standard of learning outcomes. Moreover, the Mizoram State,

where the present study was executed, has witnessed a substantial and quantitative expansion of primary education. It is imperative to find out by way of research, if the same uncongenial conditions of primary education are in existence in this highly literate north-eastern state. It was, therefore, decided by the investigator that the study be taken up to evaluate primary school children in the State and to analyse the status of primary schools in Mizoram in the light of the desired/expected level of learning outcomes as specified in Minimum Levels of Learning by NCERT.

Further, an analysis of the limited number of studies available for review shows that most of these studies have been carried out to investigate the problems and factors influencing quality of primary education. While some of these studies are methodologically sound and have answered questions that are relevant to elementary education, some others are poor in quality. Considering the importance of elementary education, the number of studies reported in this area by the Fourth and Fifth Surveys of Educational Research, and Indian Educational abstracts for a period of 1956-1998, is very small. It is felt that it is important to have more studies conducted on elementary education with a view to locate areas of weakness and backwardness in terms of learning outcomes or skills. Therefore, the present study has been taken up in this context.

Moreover, only few studies are available on evaluation of children of primary schools in relation to minimum levels of learning. Considering the national commitment for access to elementary education with the condition for success to all children aged between 6-14, it is strongly felt the inevitability to probe into the actual learning outcomes of

children of primary schools. Have our primary schools achieved at least the minimum levels of learning? If so, how many pupils have attained this level? What are the areas of weaknesses and strengths of our primary school children? The answers to all these questions shall give us insight knowledge of the actual conditions and quality of our primary schools with proper and concrete suggestions for remedial measures.

It is learnt from the account of the research studies reviewed that pupils' learning achievement at elementary stage is generally far from satisfactory. Although there are strong and vibrant international commitments under a very popular slogan 'Education for All', it is evident that many developing countries including India are suffering from quality dilution or variation along with physical expansion in elementary education. Keeping this in mind, it is inevitable to take up the present study to look into the current status and position of primary schools in Mizoram in terms of actual learning outcomes since no such study except NCERT 2006 has been taken up so far.

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CHAPTER - III  
**METHODOLOGY AND PROCEDURE**

The methodology and procedure adopted for the present study may be described under the following heads:

1. Method of study
2. Population and sample selection
3. Construction of tools
4. Data collection.
5. Statistical treatment of data

**3.1.0 Method of Study**

The present study is an evaluative study as it evaluates and assesses class IV children of primary schools in Mizoram based on competencies and skills prescribed for Minimum Levels of Learning (MLL) for class III children in the country. Descriptive method of research has been adopted as the investigator had to describe the status of primary schools in Mizoram with regard to achievement of MLL or learning outcomes by class IV children and also the academic predictors of performance such as course structures or objectives, textbooks, school facilities and teachers' educational and professional qualifications.

**3.2.0 Population and Sample Selection:**

The population under consideration in this study comprised of all class IV children of primary schools in Mizoram who had recently passed class III from such schools. As per Annual Publication 2009-2010 of Directorate of School Education, Government of Mizoram, total enrolment of



class IV children spread in all the districts of the state in 2009 - 2010<sup>1</sup> was 32052 as shown in the following Table 3.1.

| Table 3.1   |       |       |       |
|---|-------|-------|-------|
| District-wise enrolment of Class IV children, 2009-2010 |       |       |       |
| Districts   | Boys  | Girls | Total |
| Aizawl  | 5219  | 4997  | 10216 |
| Champhai  | 1939  | 1844  | 3783  |
| Kolasib   | 1644  | 1518  | 3162  |
| Lawngtlai   | 1613  | 1349  | 2962  |
| Lunglei   | 2386  | 2180  | 4566  |
| Mamit   | 1936  | 1725  | 3661  |
| Saiha   | 936   | 897   | 1833  |
| Serchhip  | 971   | 898   | 1869  |
| Total   | 16644 | 15408 | 32052 |

These 32052 children constituted the population for the present study.

Sample selection was done through stratified random sampling technique. Firstly, the whole of Mizoram was stratified into districts. Decision was made to draw a sample of not less than 2% of the population (children of primary schools) from each district. As objectives no. 2 and 3 of the present study which require the investigator to compare the performance of children of government and private, and urban and rural primary schools, primary schools in each Districts were stratified based on their management and localities. The investigator, through his pilot study, had known that to get almost equal number of children, he had to select larger number of government primary schools as average enrolment in these schools was less than that of private English medium schools. Keeping this in mind, sample schools were randomly selected from each Districts. Districts, management and location-wise distribution of schools selected for the study is as shown in Table 3.2.

| <b>Table 3.2 :</b>  |               |                              |           |           |                            |           |           |
|---|---------------|------------------------------|-----------|-----------|----------------------------|-----------|-----------|
| <b>Management and Location-wise Distribution of Schools Selected for the Study.</b> |               |                              |           |           |                            |           |           |
| Districts   | No of schools | Management wise distribution |           |           | Location wise distribution |           |           |
|   |               | Govt                         | Private   | Total     | Rural                      | Urban     | Total     |
| Aizawl  | 485           | 7                            | 3         | 10        | 4                          | 6         | 10        |
| Champhai  | 222           | 4                            | 2         | 6         | 3                          | 3         | 6         |
| Kolasib   | 128           | 5                            | 2         | 7         | 3                          | 4         | 7         |
| Lawngtlai   | 252           | 4                            | 2         | 6         | 4                          | 2         | 6         |
| Lunglei   | 333           | 6                            | 2         | 8         | 4                          | 4         | 8         |
| Mamit   | 130           | 5                            | 2         | 7         | 4                          | 3         | 7         |
| Saiha   | 131           | 4                            | 2         | 6         | 4                          | 2         | 6         |
| Serchhip  | 101           | 4                            | 2         | 6         | 3                          | 3         | 6         |
| <b>Total</b>  | <b>1782</b>   | <b>39</b>                    | <b>17</b> | <b>56</b> | <b>29</b>                  | <b>27</b> | <b>56</b> |

**Sources: Annual publication 2009-10 by Directorate of School Education & <http://mz.ssa.nic.in>**

After selecting primary schools from all the districts which would be able to represent government and private, and urban and rural schools, it was decided that Class IV Mizo children who would be present on the day of visit would constitute the sample. It was estimated that these children would constitute the required sample size which is about 380 for a population of about 40,000 as per the table for determining sample size for research activities given by R.V. Krejcie and D.W. Morgan (1970)<sup>2</sup> in Educational and Psychological Measurement. Actual sample size, thus, was determined by the number of Class IV Mizo speaking children present in the schools at the time of administration of the tests which came out to be 808.

Management, location and gender-wise distribution of sample children is as given in Table 3.3:

| <b>Table 3.3:</b>  |                       |         |       |       |       |       |      |       |       |
|--|-----------------------|---------|-------|-------|-------|-------|------|-------|-------|
| <b>Management, location and gender-wise distribution of sample children.</b> |                       |         |       |       |       |       |      |       |       |
| Districts  | No of sample children |         |       |       |       |       |      |       |       |
|  | Govt                  | Private | Total | Rural | Urban | Total | Boys | Girls | Total |
| Aizawl   | 73                    | 146     | 219   | 66    | 153   | 219   | 97   | 122   | 219   |
| Champhai   | 66                    | 52      | 118   | 45    | 73    | 118   | 64   | 54    | 118   |
| Kolasib  | 56                    | 44      | 100   | 46    | 54    | 100   | 45   | 55    | 100   |
| Lawngtlai  | 36                    | 45      | 81    | 31    | 50    | 81    | 34   | 47    | 81    |
| Lunglei  | 48                    | 60      | 108   | 32    | 76    | 108   | 55   | 53    | 108   |
| Mamit  | 55                    | 33      | 88    | 56    | 32    | 88    | 39   | 49    | 88    |
| Saiha  | 24                    | 15      | 39    | 11    | 28    | 39    | 28   | 11    | 39    |
| Serchhip   | 26                    | 29      | 55    | 20    | 35    | 55    | 21   | 34    | 55    |
| Total  | 384                   | 424     | 808   | 307   | 501   | 808   | 383  | 425   | 808   |

### 3.3.0 Construction of Tools:

In order to collect the necessary data, the following tools were constructed:

- (1) Competency-based Achievement Test in Environmental Studies.
- (2) Competency-based Achievement Test in Mathematics
- (3) Competency-based Achievement Test in Language (Mizo)
- (4) Observation cum Interview Schedule for Teachers

A brief description of the procedures followed in constructing the tools is given as follows:

### 3.3.1 Construction of Competency-based Achievement Tests:

Basically the aim of this research was to evaluate primary school children in Mizoram in relation to Minimum Levels of Learning. In Mizoram, unlike many other states of the country, a primary school comprises of Classes I –IV; as such, Class IV is the last stage in such school. In order to evaluate the educational outcome and the educational status of children towards the end of primary stage, it was decided to assess Class IV children for competencies expected at the end of Class III on the ground that they had

already completed Class III but they were still available in the same stage of school.

The tools developed for the purpose of the present study were called Competency-based Achievement Tests because they were so constructed based on the minimum expected learning outcomes or competencies listed out for the Minimum Levels of Learning (MLL). They are achievement tests by nature and strategy. The achievement tests were constructed for the three subjects, Environmental Studies (EVS), Mathematics and Language (Mizo) respectively which involved the following steps:

(i) First of all, MLL expected to be attained by children at the end of Class III in EVS, Mathematics and Language prepared by NCERT, New Delhi were thoroughly studied. Available conceptual as well as research literature related to evaluation of children at the primary school level was also reviewed so as to get a clear idea about the tools to be used for the present study. After that, textbooks on EVS, Mathematics and Language (Mizo) prescribed by Mizoram Board of School Education (MBSE) for Class III children of Mizo medium schools and English medium schools were looked into and studied thoroughly. Using these guidelines, the areas of learning to be assessed were identified.

(ii) A separate test for each subject viz. EVS, Mathematics and Language (Mizo) was constructed by preparing short and objective type questions/items based on the areas of learning and competency already identified for assessment. Items were prepared in the form of stories and puzzles along with pictures and illustrations to sustain children's interest.

They were made grade-specific and age-specific as far as practicable rather than textbook-dependent and also related to the child's daily life.

(iii) The drafts of the tests at various stages were subjected to criticism and comment of the supervisor a number of times and other experts. Based on these, the drafts were subsequently modified and improved. After the improved drafts of the tests were tried out on 113 children from government and private and, rural and urban schools, the tests were finalized.

(iv) In the final test for each subject, there were 40 items/questions carrying 1 mark each with a total mark of 40 and 40 minute-time was assigned for duration of each test. Question sheets were compiled in a book-let form. Apart from this, practice book-let and answer book-let corresponding to the questions compiled in a book-let form were also separately prepared for each subject.

### **3.3.2 Validation of the achievement tests:**

For the present study, the investigator decided to validate the content of the tests in the form of logical validity. Accordingly, experts' opinions were taken for finding out the content validity. The achievement tests along with statements of MLL were given to 23 subject experts consisting of teachers of Department of Education, Mizoram University, officials of SCERT, MBSE, eminent educationists and subject teachers of EVS, Mathematics and Mizo from both Mizo and English medium primary schools in the state, for validation. A five-point rating scale constructed for each subject was also provided to the experts for recording their observation and feedback on the validity of each item. The test items were found valid by

majority of the subject experts out of which more than half of them considered the items as highly valid.

### 3.3.3 A Pilot study to establish the reliability of the tools:

After the achievement test for each subject was finalized, a pilot study was conducted and carried out in the schools mentioned in the following table and the reliability of the tests were also established by following split-half method.

| Table 3.4                         |                                  |          |                   |       |      |                     |
|-----------------------------------|----------------------------------|----------|-------------------|-------|------|---------------------|
| No of Respondents in Pilot Study. |                                  |          |                   |       |      |                     |
| Date                              | Name of schools                  | District | No of respondents |       |      | Average respondents |
|                                   |                                  |          | EVS               | Maths | Mizo |                     |
| 10.8.09                           | Laihuna Memorial Govt schools.   | Aizawl   | 9                 | 10    | 9    | 9.33                |
| 12.8.09                           | RN Govt Primary school, Aizawl.  | Aizawl   | 15                | 13    | 14   | 14                  |
| 13.8.09                           | Bethlehem Vengthlang Govt P.S.   | Aizawl   | 25                | 27    | 22   | 24.67               |
| 14.8.09                           | Rosebud School, Aizawl.          | Aizawl   | 52                | 51    | 54   | 53.33               |
| 25.8.09                           | Lungdai Govt PS I & II, Lungdai. | Kolosib  | 12                | 12    | 19   | 14.33               |
|                                   |                                  |          | 113               | 113   | 118  | 114.66              |

The reliability Co-efficients of the tests on the three subjects were as given in Table 3.5. (Appendix -10) may please be referred to for the detail calculation of the reliability of the tests)

| Table 3.5                          |             |             |             |      |
|------------------------------------|-------------|-------------|-------------|------|
| Reliability Co-efficient of Tests. |             |             |             |      |
| S.No                               | Subjects    | No of items | Reliability |      |
|                                    |             |             | Split half  | r    |
| 1                                  | EVS         | 40          | 0.61        | 0.76 |
| 2                                  | Mathematics | 40          | 0.46        | 0.62 |
| 3                                  | Mizo        | 40          | 0.73        | 0.84 |

### **3.3.4 Construction of Observation cum Interview Schedule for Teachers:**

After consulting conceptual as well as research literature related to evaluation of schools, observation cum interview schedule for teachers was also constructed for obtaining information regarding the schools and their facilities, teachers' educational and professional qualification and others. It was anticipated that these would be important learning inputs and correlates of children's achievement levels.

### **3.4.0 Collection of Data.**

Data for the present study were collected through Administration of the Achievement Tests and Observation-cum-Interview Schedule.

After validity and reliability of the Achievement Tests on the three subjects were established satisfactorily, the tests materials were finalized and printed in book-let forms. The Achievement Tests materials consisted three parts: Question sheets, Answer sheets and Practice sheets. Practice-sheets were prepared for the purpose of practice and trial so that children might not face difficulties owing to unfamiliarity of the tests. The medium of the test was Mizo, which is the spoken language of most of the children in Mizoram. Children of non-speaking Mizo, if any, were left out in the test. The question sheets of the test in each subject were printed in only 100 copies as they were meant for re-use whereas answer sheets were printed in 1000 copies. Data collection was carried out and completed within three months of commencement of the academic session.

Generally, a single day was spent to complete the tests on the three subjects in each school. At first, a rapport was established between the children and the test administrator followed by explanation, clarification and instructions with the help of practice Book-let which took approximately 30 minutes beginning at around 9:30 AM. Usually, morning session was started with a test in Language (Mizo) as it required more time than the other tests due to its involvement of storytelling and carrying out of instruction. The other two tests were usually conducted in the afternoon session. The second test was usually started after lunch break at 1PM which took about 40 plus 20 minutes. Therefore, the 3rd and final test was started at 2PM and completed within the remaining 1 hour. Thus, all the three tests were generally completed at 3PM positively in every sample school. At the end of the last test in the afternoon session, one pencil (Apsara -Platinum) was distributed to each and every child to whom the tests were conducted, as a token of appreciation for their cooperation. All the question sheets and answer sheets were collected from each respondent child at the end of each test. The question sheets were reused in other schools whereas the answer sheets were meant for scoring and analysis.

Usually, after completion of the test administration, headmasters or teachers were interviewed by using Observation-cum-Interview Schedule which generally took about 20 to 30 minutes duration in each school.

### **3.5.0 Statistical Treatment of Data:**

Descriptive analysis was done for the data on learning inputs such as course structures or objectives, textbooks, schools and teachers



whereas inferential analysis was undertaken with the scores of children on the achievement tests.

Data on students' performance in Competency-based Achievement Tests were entered, tabulated and analyzed with the help of SPSS (11.5 version) and Microsoft Excel. Percentage and measures of variability such as mean and standard deviation were calculated. The 't' test was used to determine the significance of differences in children's performance with reference to the variables under study .

## References:

1. DSE (2010) *Annual Publication 2009-2010. Aizawl: Directorate of School Education, Mizoram.*
2. Krejcie, R.V, et al (1970) Determining Sample Size for Research Activities. *Education and Psychological Measurement, 30,607-610.*

## CHAPTER IV

### ANALYSIS OF DATA AND INTERPRETATION

In the present chapter, performances and levels of achievement of Class IV children in Environmental Studies, Mathematics and Mizo in relation to Minimum Levels of Learning (MLL) and some academic predictors have been analyzed and interpreted. Performances of the students have been analyzed with the help of measures of variability such as mean and standard deviation and 't' calculated value has been used to find out whether the differences between the performances of children are significant at 0.1 and 0.5 levels or not. Performances are also analyzed in terms of levels of achievement, that is, the ranges of percentage of marks obtained by the students, to know if the students have achieved mastery level of learning expected in MLL. Mastery level of learning, as stated earlier, refers to achievement of 80 per cent and above marks in an MLL based achievement test. In operational terms, MLL requires that 80 per cent or more children should be able to master at least 80 per cent of the prescribed learning levels or skills.

The main concern of the present study is to know how many Class IV children in Mizoram have attained mastery level of learning in EVS, Mathematics and Language (Mizo) for Class III. The study is also concerned with knowing whether management and location of the schools where the children study, and gender of children have anything to do with the performances and achievement levels of these children. Data on some

learning inputs such as course structure or objectives, textbooks, schools and teachers have also been analyzed to know whether they contribute to achievement of MLL competencies or not.

Accordingly, the present chapter contains data analyzed and presented in 3 sections. The sections along with the aspects of the study covered by each section are as follow:

**Section I Performance and Level of Achievement of Class IV Children in Environmental Studies, Mathematics and Mizo in Relation to MLL.**

- A – Overall performance and level of achievement
- B - District-wise performance and level of achievement.
- C – Competency-wise performance and level of achievement.

**Section II: Comparison of Performance and Level of Achievement of Class IV Children.**

- A – School Management-wise comparison.
- B- School Location-wise comparison.
- C– Gender-wise comparison.

**Section III: Learning Inputs:**

- A - Course structures or objectives.

- B - Textbooks
- C- School Facilities and
- D- Teachers' Qualifications.

#### 4.1.0 Performance and Level of Achievement of Class IV Children in Environmental Studies, Mathematics and Mizo in Relation to MLL.

##### 4.1.1 A Overall Performance and Level of Achievement

| <b>Table 4.1.1a</b>  |            |              |             |              |
|--|------------|--------------|-------------|--------------|
| <b>Overall performance of Class IV children in Environmental Studies, Mathematics and Mizo</b> |            |              |             |              |
|  | <b>EVS</b> | <b>Maths</b> | <b>Mizo</b> | <b>Total</b> |
| <b>Cases</b>   | 808        | 808          | 808         | 2424         |
| <b>Mean</b>  | 18.91      | 13.88        | 23.65       | 18.81        |
| <b>SD</b>  | 6.26       | 4.83         | 6.62        | 7.17         |

| <b>Table 4.1.1b:</b>  |            |          |                    |          |             |          |              |          |
|---|------------|----------|--------------------|----------|-------------|----------|--------------|----------|
| <b>Overall Level of Achievement in Environmental Studies, Mathematics and Mizo.</b> |            |          |                    |          |             |          |              |          |
|   | <b>EVS</b> |          | <b>Mathematics</b> |          | <b>Mizo</b> |          | <b>Total</b> |          |
|   | <b>N</b>   | <b>%</b> | <b>N</b>           | <b>%</b> | <b>N</b>    | <b>%</b> | <b>N</b>     | <b>%</b> |
| Mastery 80% and Above   | 2          | 0.25     | 0                  | 0        | 95          | 11.76    | 97           | 4.00     |
| 60-79%  | 190        | 23.51    | 20                 | 2.48     | 305         | 37.75    | 515          | 21.25    |
| 45-59%  | 290        | 35.89    | 149                | 18.44    | 237         | 29.33    | 676          | 27.89    |
| 30-44%  | 215        | 26.61    | 388                | 48.02    | 143         | 17.70    | 746          | 30.78    |
| Below 30%   | 111        | 13.74    | 251                | 31.06    | 28          | 3.47     | 390          | 16.09    |
| Total   | 808        | 100      | 808                | 100      | 808         | 100      | 2424         |          |

The performance of class IV children in terms of mean scores and Standard Deviation (SD) in all the three subjects presented in Table 4.1.1a has been supplemented by Table 4.1.1b which presents the

percentage levels of achievement of the children. The facts reflected by the above two tables are as given below:

(i) The overall performance of class IV children is very low and far from satisfactory as the mean score is only 18.81 which is equivalent to 47.025% of the total marks.

(ii) Among the subjects- EVS, Mathematics and Mizo on which MLL based achievement tests were given, Mizo is the one in which Class IV children performed the best. The mean score obtained out of a total mark of 40 is 23.65 which is equivalent to 59.12% average mark score. In other words, the average percentage score is only 59.12 in Mizo whereas at least 80% mark is required for achievement of MLL. With regard to the level of achievement in this particular subject, 96% have failed to attain mastery level and only 4% of sample children attain the said level.

(iii) Children are found very poor in Mathematics as the mean performance score is only 13.87 that is equivalent to the average percentage score of 34.67 only and no one has achieved mastery level. At the same time, the lowest Standard Deviation 4.83 is observed in Mathematics subject which, implies that children are more homogenous with regard to their performance in this subject.

(iv) In Environmental studies, the mean score is 18.91 which is equivalent to the average percentage of 47.27. Not less than 99% have failed to achieve mastery level.

(v) The largest number of children is found within the given range of 45%-59%, 30%-44% and 60%-79% of marks in Environmental Studies, Mathematics and Mizo respectively.

(vi) The above tables reflect that the performance and achievement levels of Class IV children are far from satisfactory.

**Table 4.1.2:**  
**Correlation between achievement in Mathematics,  
Mizo and Environmental Studies.**

| Subjects                           | N = 808                    | Achievement<br>in Mizo<br>Language | Achievement<br>in Environ-<br>mental<br>Studies |
|------------------------------------|----------------------------|------------------------------------|---|
|                                    | Mathematics<br>Achievement |                                    |   |
| Mathematics Achievement            | 1                          | -0.022496                          | -0.04   |
| Achievement in Mizo Language       | -0.02                      | 1                                  | <b>0.13**</b>                                   |
| Achievement in Environment Studies | -0.04                      | 0.13                               | 1   |

**\*\*Significant at .01 level.**

The correlation between achievements in Environmental Studies, Mathematics and Mizo given in Table 4.1.2 indicates that significant positive correlation is found only between Mizo (Language) and Environmental Studies. This implies that learning achievement in Mizo significantly influence learning achievement in Environmental Studies and vice versa. In the other two subjects, no such correlation is found.

**4.1.2** B: District-wise Performance and Level of  
Achievement of Class IV Children.

| Table 4.1.3a:  |              |      |          |      |              |      |       |      |              |      |         |      |              |      |              |      |         |
|--|--------------|------|----------|------|--------------|------|-------|------|--------------|------|---------|------|--------------|------|--------------|------|---------|
| District-wise performance in Environmental Studies (EVS), Mathematics and Mizo |              |      |          |      |              |      |       |      |              |      |         |      |              |      |              |      |         |
| Subjects   | Aizawl       |      | Champhai |      | Kolasib      |      | Mamit |      | Lawngtlai    |      | Lunglei |      | Saiha        |      | Serchhip     |      | Overall |
|  | N=           | 222  | N=       | 118  | N=           | 98   | N=    | 89   | N=           | 80   | N=      | 107  | N=           | 39   | N=           | 55   | N=      |
|  | Mean         | SD   | Mean     | SD   | Mean         | SD   | Mean  | SD   | Mean         | SD   | Mean    | SD   | Mean         | SD   | Mean         | SD   | Mean    |
| EVS  | 19.45        | 6.17 | 19.07    | 6.42 | <b>17.70</b> | 5.74 | 18.85 | 6.70 | 18.87        | 6.40 | 18.33   | 6.52 | 19.01        | 5.77 | <b>19.69</b> | 6.00 | 18.91   |
| Maths  | <b>15.48</b> | 4.70 | 14.52    | 4.14 | 12.66        | 4.94 | 14.92 | 4.90 | 11.51        | 4.28 | 13.35   | 5.09 | <b>11.09</b> | 3.16 | 12.92        | 4.68 | 13.87   |
| Mizo   | 23.29        | 6.67 | 23.11    | 6.89 | <b>25.78</b> | 5.51 | 23.60 | 7.01 | <b>23.03</b> | 6.59 | 23.59   | 6.46 | 24.09        | 7.21 | 23.28        | 6.64 | 23.65   |

| Table 4.1.3b:  |           |     |       |       |              |     |
|--|-----------|-----|-------|-------|--------------|-----|
| District-wise performance in EVS, Mathematics and Mizo combined. |           |     |       |       |              |     |
| Sl.No  | District  | N   | Mean  | SD    | t'           | Df  |
| 1  | Aizawl    | 658 | 20.47 | 7.34  | <b>5.19</b>  | 925 |
| 2  | Lunglei   | 269 | 19.35 | 7.04  |              |     |
| 3  | Champhai  | 352 | 18.94 | 6.23  | 1.6          | 647 |
| 4  | Kolasib   | 297 | 18.57 | 7.10  |              |     |
| 5  | Mamit     | 241 | 17.17 | 7.59  | 1.21         | 407 |
| 6  | Serchhip  | 168 | 16.81 | 5.83  |              |     |
| 7  | Lawngtlai | 322 | 12.01 | 10.01 | <b>-9.82</b> | 437 |
| 8  | Saiha     | 117 | 15.17 | 6.35  |              |     |

The above tables 4.1.3a and 4.1.3b shows the result of district-wise analysis of data. Table 4.1.3a particularly presents district-wise performance of children on the three subjects. In Environmental Studies, the highest mean score (19.69) is found among children of Serchhip District and the lowest mean score (17.70) in Kolasib District. In Mathematics, the mean score is highest in Aizawl District (15.48) and lowest in Saiha District (11.09). Children from Kolasib District score the highest mean score (25.78) in Mizo and Lawngtlai scores the lowest mean score (23.03). It may be noted that Kolasib derives the lowest mean score in Environmental Studies whereas it scores the highest mean score in Mizo. At the same time, the lowest Standard Deviation is also found in Kolasib District in



Environmental Studies and Mizo subject respectively. This reflects that lesser disparity of learning achievement in these two particular subjects is observed in Kolasib District when compared with the rest of the districts.

A perusal of Table 4.1.3b reveals that when we combine the scores of children in the three subjects, namely Environmental Studies, Mathematics and Mizo, the mean score of children belonging to Aizawl District 20.47 is highest whereas the lowest mean score 12.01 is found in Lawngtlai District. When we compare the mean scores of children from Aizawl District and the nearest one, i.e Lunglei District, whose mean score is 19.35, it is found that the 't' calculated value is more than the Table 't' value at both 0.1 and 0.5 point levels. Hence, it can be assumed that children belonging to Aizawl District are significantly better than that of the rest of the 7 (seven) districts in the three tests.

**Table 4.1.4:**  
**District-wise Overall Level of Achievement of MLL in Environmental Studies, Mathematics and Mizo combined.**

| Districts | Below 30% |      | 30%-44% |      | 45%-59% |      | 60%-79% |      | 80%&above |      | Total |       |
|-----------|-----------|------|---------|------|---------|------|---------|------|-----------|------|-------|-------|
|           | N         | %    | N       | %    | N       | %    | N       | %    | N         | %    | N     | %     |
| Aizawl    | 80        | 3.30 | 170     | 7.01 | 190     | 7.84 | 174     | 7.18 | 44        | 1.82 | 658   | 27.15 |
| Champhai  | 36        | 1.49 | 120     | 4.95 | 123     | 5.07 | 63      | 2.60 | 9         | 0.37 | 353   | 14.56 |
| Kolosib   | 50        | 2.06 | 87      | 3.59 | 85      | 3.51 | 64      | 2.64 | 11        | 0.45 | 297   | 12.25 |
| Lawngtlai | 65        | 2.68 | 79      | 3.26 | 42      | 1.73 | 48      | 1.98 | 7         | 0.29 | 241   | 9.94  |
| Lunglei   | 51        | 2.10 | 105     | 4.33 | 81      | 3.34 | 69      | 2.85 | 14        | 0.58 | 322   | 13.28 |
| Mamit     | 34        | 1.40 | 78      | 3.22 | 80      | 3.30 | 67      | 2.76 | 10        | 0.41 | 269   | 11.10 |
| Saiha     | 38        | 1.57 | 38      | 1.57 | 29      | 1.20 | 12      | 0.50 | 0         | 0.00 | 117   | 4.83  |
| Serchhip  | 31        | 1.28 | 69      | 2.85 | 47      | 1.94 | 18      | 0.74 | 2         | 0.08 | 167   | 6.89  |

A cursory look at Table 4.1.4 depicts that the percentage of children who scores 80% marks and above is very low that it is only 4 for the

whole state. The highest percentage is only 1.82 found in Aizawl district and the lowest is 0 in respect of Saiha district. Further, the Table also shows that 3.30% of children from Aizawl District have scored less than 30% out of the total 40 marks in each of the three tests. In other words, the largest number of children scoring below 30% belongs to Aizawl District. As a whole, 96% of children have failed to achieve mastery level whereas 15% of children in the whole state have failed to score more than 30% of marks.

**Table 4.1.5:**  
**District-wise Level of achievement in Environmental Studies.**

| District     | Below 30%  |             | 30-44%     |             | 45-59%     |             | 60-79%     |             | Mastery 80% & |            | Total      |            |
|--------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|---------------|------------|------------|------------|
|              | N          | %           | N          | %           | N          | %           | N          | %           | N             | %          | N          | %          |
| Aizawl       | 27         | 12.2        | 54         | 24.3        | 84         | 37.8        | 56         | 25.2        | 1             | 0.5        | 222        | 100        |
| Champhai     | 17         | 14.41       | 31         | 26.27       | 41         | 34.75       | 28         | 23.73       | 1             | 0.85       | 118        | 100        |
| Kolasib      | 16         | 16.33       | 30         | 30.61       | 36         | 36.73       | 16         | 16.33       | 0             | 0          | 98         | 100        |
| Mamit        | 14         | 15.73       | 19         | 21.35       | 34         | 38.20       | 22         | 24.72       | 0             | 0          | 89         | 100        |
| Lawngtlai    | 10         | 12.50       | 25         | 31.25       | 24         | 30.00       | 21         | 26.25       | 0             | 0          | 80         | 100        |
| Lunglei      | 19         | 17.76       | 26         | 24.30       | 39         | 36.45       | 23         | 21.50       | 0             | 0          | 107        | 100        |
| Saiha        | 5          | 12.82       | 12         | 30.77       | 12         | 30.77       | 10         | 25.64       | 0             | 0          | 39         | 100        |
| Serchip      | 3          | 5.45        | 18         | 32.73       | 20         | 36.36       | 14         | 25.45       | 0             | 0          | 55         | 100        |
| <b>Total</b> | <b>111</b> | <b>13.7</b> | <b>215</b> | <b>26.6</b> | <b>290</b> | <b>35.9</b> | <b>190</b> | <b>23.5</b> | <b>2</b>      | <b>0.2</b> | <b>808</b> | <b>100</b> |

A casual look at Table 4.1.5 tells us that only 2 (two) children (0.2%) achieve mastery level in Environmental Studies and those two children are from Aizawl and Champhai districts. No one from the remaining 6 (six) districts achieves this level in this particular subject. As a whole, the largest number of Class IV children is found scoring in between the range of 45%-59% and 13.7% of children have scored below 30% of the total marks in this subject. Since only 0.2% achieves mastery level, the overall level of achievement in this particular subject is very low and

unsatisfactory. By implication approximately one-tenth of the children do not even obtain 30% marks on the tests.

| <b>Table 4.1.6:</b>                                      |                  |             |                |             |                |             |                |            |                                  |          |              |            |
|--|------------------|-------------|----------------|-------------|----------------|-------------|----------------|------------|----------------------------------|----------|--------------|------------|
| <b>District-wise Level of achievement in Mathematics</b> |                  |             |                |             |                |             |                |            |                                  |          |              |            |
| <b>District</b>  | <b>Below 30%</b> |             | <b>30%-44%</b> |             | <b>45%-59%</b> |             | <b>60%-79%</b> |            | <b>Mastery<br/>80%&amp;above</b> |          | <b>Total</b> |            |
|  | <b>N</b>         | <b>%</b>    | <b>N</b>       | <b>%</b>    | <b>N</b>       | <b>%</b>    | <b>N</b>       | <b>%</b>   | <b>0</b>                         | <b>0</b> | <b>N</b>     | <b>%</b>   |
| Aizawl   | 49               | 22.1        | 97             | 43.7        | 68             | 30.6        | 8              | 3.6        | 0                                | 0        | 222          | 100        |
| Champhai   | 24               | 20.3        | 68             | 57.6        | 26             | 22.0        | 0              | 0.0        | 0                                | 0        | 118          | 100        |
| Kolasib  | 39               | 39.8        | 45             | 45.9        | 11             | 11.2        | 3              | 3.1        | 0                                | 0        | 98           | 100        |
| Mamit  | 20               | 22.5        | 44             | 49.4        | 21             | 23.6        | 4              | 4.5        | 0                                | 0        | 89           | 100        |
| Lawngtlai  | 43               | 53.8        | 29             | 36.3        | 8              | 10.0        | 0              | 0.0        | 0                                | 0        | 80           | 100        |
| Lunglei  | 35               | 32.7        | 58             | 54.2        | 9              | 8.4         | 5              | 4.7        | 0                                | 0        | 107          | 100        |
| Saiha  | 20               | 51.3        | 19             | 48.7        | 0              | 0.0         | 0              | 0.0        | 0                                | 0        | 39           | 100        |
| Serchip  | 21               | 38.2        | 28             | 50.9        | 6              | 10.9        | 0              | 0.0        | 0                                | 0        | 55           | 100        |
| <b>Total</b>   | <b>251</b>       | <b>31.1</b> | <b>388</b>     | <b>48.0</b> | <b>149</b>     | <b>18.4</b> | <b>20</b>      | <b>2.5</b> | <b>0</b>                         | <b>0</b> | <b>808</b>   | <b>100</b> |

Table 4.1.6 shows that no one from amongst the sample children attains mastery level in Mathematics. The largest number of children (48%) in all the Districts is found scoring between the range of 30%-44% and 31.1% of them are found scoring below 30% of the total mark. The overall mean score in this subject is only 13.87 (see Table.4.1a) which is the lowest amongst the three subjects. It is apparent that one-fourth of the children do not achieve 30% marks on the test in this particular subject.

| Table 4.1.7:<br>District-wise Level of Achievement in Mizo. |           |            |            |             |            |             |            |             |                      |             |            |            |
|---|-----------|------------|------------|-------------|------------|-------------|------------|-------------|----------------------|-------------|------------|------------|
| District  | Below 30% |            | 30-44%     |             | 45-59%     |             | 60-79%     |             | Mastery(80% & above) |             | Total      |            |
|   | N         | %          | N          | %           | N          | %           | N          | %           | N                    | %           | N          | %          |
| Aizawl  | 6         | 2.7        | 53         | 23.9        | 62         | 27.9        | 78         | 35.1        | 23                   | 10.4        | 222        | 100        |
| Champhai  | 5         | 4.2        | 23         | 19.5        | 38         | 32.2        | 38         | 32.2        | 14                   | 11.9        | 118        | 100        |
| Kolasib   | 0         | 0.0        | 7          | 7.1         | 30         | 30.6        | 43         | 43.9        | 18                   | 18.4        | 98         | 100        |
| Mamit   | 4         | 4.5        | 17         | 19.1        | 24         | 27.0        | 33         | 37.1        | 11                   | 12.4        | 89         | 100        |
| Lawngtlai   | 7         | 8.8        | 8          | 10.0        | 25         | 31.3        | 32         | 40.0        | 8                    | 10.0        | 80         | 100        |
| Lunglei   | 4         | 3.7        | 18         | 16.8        | 32         | 29.9        | 44         | 41.1        | 9                    | 8.4         | 107        | 100        |
| Saiha   | 1         | 2.6        | 8          | 20.5        | 7          | 17.9        | 17         | 43.6        | 6                    | 15.4        | 39         | 100        |
| Serchhip  | 1         | 1.8        | 9          | 16.4        | 19         | 34.5        | 20         | 36.4        | 6                    | 10.9        | 55         | 100        |
| <b>Total</b>  | <b>28</b> | <b>3.5</b> | <b>143</b> | <b>17.7</b> | <b>237</b> | <b>29.3</b> | <b>305</b> | <b>37.7</b> | <b>95</b>            | <b>11.8</b> | <b>808</b> | <b>100</b> |

Data in Table 4.1.7 reveal that in Mizo language, 11.8% of children attain mastery level as a whole. In terms of achievement at mastery level, Kolasib district occupies the first position seconded by Saiha district followed by Mamit, Champhai, Serchhip, Aizawl, Lawngtlai and Lunglei districts. However, the level of achievement is not satisfactory as there are as many as 88.2% of children who do not achieve MLL. Of these children, 3.5% of them obtain below 30% of the total mark. The largest number of children obtaining less than 30% marks is found in Lawngtlai district followed by Mamit district.

**4.1.3** C. Competency-wise Performance and Level of Achievement of Class IV Children:

| <b>Table 4.1.8a:</b>                       |                 |           |             |                          |                      |                  |             |              |                     |               |
|--|-----------------|-----------|-------------|--------------------------|----------------------|------------------|-------------|--------------|---------------------|---------------|
| <b>Competency-wise performance in EVS.</b> |                 |           |             |                          |                      |                  |             |              |                     |               |
|  | Civic Amenities | Geography | Reading Map | History of the Early Man | Population Education | Personal hygiene | Environment | Solar System | Air/water Pollution | Overall Total |
| N  | 808             | 808       | 808         | 808                      | 808                  | 808              | 808         | 808          | 808                 | 808           |
| Mean                                       | 2.61            | 0.32      | 1.14        | 1.60                     | 1.05                 | 2.11             | 2.57        | 1.46         | 1.92                | 18.91         |
| Std. Deviation                             | 1.42            | 0.47      | 0.85        | 1.06                     | 0.78                 | 1.27             | 1.27        | 1.09         | 1.20                | 6.26          |

| <b>Table 4.1.8b:</b>  |           |       |                     |       |
|---|-----------|-------|---------------------|-------|
| <b>Competency-wise level of achievement in Environmental Studies.</b> |           |       |                     |       |
| Selected MLL Competencies in Env. Studies (EVS).                      | Below 30% |       | Mastery (80%&above) |       |
|   | N         | %     | N                   | %     |
| Civic amenities.  | 192       | 23.76 | 65                  | 8.04  |
| Geography.  | 547       | 67.70 | 261                 | 32.30 |
| Map reading.  | 280       | 34.65 | 79                  | 9.78  |
| History of early man  | 389       | 48.14 | 27                  | 3.34  |
| Population education.   | 223       | 27.60 | 264                 | 32.67 |
| Personal hygiene  | 256       | 31.68 | 117                 | 14.48 |
| Environment.  | 133       | 16.46 | 168                 | 20.79 |
| Air/water Pollution   | 291       | 36.01 | 79                  | 9.78  |
| Solar system  | 440       | 54.46 | 27                  | 3.34  |

Table 4.1.8a depicts the performance of children in nine major areas into which the test items in Environmental Studies have been classified. The items pertaining to 'civic amenities' elicit the highest mean score of performance i.e. 2.61 whereas the lowest mean score of performance (i.e. 0.3) is found on the items pertaining to 'geography' which include questions/items relating to general physical feature of the State of Mizoram. The level of performance of children on the item 'map reading' which requires

the children to locate their own State and District from given political maps of India and Mizoram State, is also found to be very low (at the mean score of 1.14)). The overall mean score in this particular subject is only 18.9.

It is evident from Table 4.1.8b that although the largest percentage of children achieving mastery level is found on the item of Geography, 67.70% of children have scored less than 30% of the total marks in this particular area. This reflects that half of the total sample children have failed to score more than 30% of the total marks in the area. Another area where we find half of the children scoring less than 30% of the total mark is on the area of Solar system. Apart from these two areas, the MLL competency areas like history of early man, civic amenities, map reading and air/water pollution are the areas where there are less than 10% of the children who attain mastery level. In other words, not less than 90% of children fail to attain mastery level in these four areas. Besides Geography, Solar system is the area where more than 50% of children score less than 30% of total mark.

**Table 4.1.9a :**  
**Competency-wise performance in Mathematics**

|      | Number concept | Arithmetic Operations | Daily problem in life | Reading Clock | Reading Calender | Fraction | Geometrical Shapes | Overall Total |
|------|----------------|-----------------------|-----------------------|---------------|------------------|----------|--------------------|---------------|
| N    | 808            | 808                   | 808                   | 808           | 808              | 808      | 808                | 808           |
| Mean | 3.19           | 2.26                  | 5.9                   | 1.04          | 0.52             | 0.578    | 0.4                | 13.87         |

| <b>Table 4.1.9b:</b>  |           |       |                     |       |
|---|-----------|-------|---------------------|-------|
| <b>Competency-wise level of achievement in Mathematics.</b> |           |       |                     |       |
| Selected MLL Competencies in Mathematics.                   | Below 30% |       | Mastery (80%&above) |       |
|   | N         | %     | N                   | %     |
| Number concept  | 285       | 35.27 | 18                  | 2.23  |
| Arithmetic Operation  | 249       | 30.82 | 159                 | 19.68 |
| Daily life problem  | 119       | 14.73 | 21                  | 2.60  |
| Reading clock   | 327       | 40.47 | 350                 | 43.32 |
| Reading Calender.   | 393       | 48.64 | 3                   | 0.37  |
| Fractions   | 491       | 60.77 | 48                  | 5.94  |
| Geometrical shapes.   | 625       | 77.35 | 23                  | 2.85  |

Table 4.1.9a presents the data on competency-wise performance of Class IV children in Mathematics where the two lowest mean scores 0.4 and 0.52 are found against the MLL competency of geometrical shapes and reading calendar respectively. This implies that most children are weak in these two areas of Mathematics. The highest mean score is found against the area of 'daily problem in life' which involves mathematical problem solution in real life situations. This indicates, more or less, that children are better in problem solving which requires divergent thinking whereas they are least developed in the areas like geometrical shapes and reading calendar which involves convergent thinking. Fraction is another area where children perform poorly.

Table 4.1.9b also tells us that not less than 99% of sample children have failed to attain mastery level in the area of reading calendar. It is apparent from this Table that 99% of Class IV children are unable to read and interpret calendar (Gregorian calendar mostly used in the State) properly. Apart from this area, most children are also found very weak in the areas like number concept, daily life mathematical problems,

understanding geometrical shapes and fractions. Although reading clock is the area where 43.32% of children achieve mastery level, yet as many as 56.68% of children are found unable to read clock properly.

**Table 4.1.10a :**  
**Competency-wise performance in Mizo.**

|      | Listening | Pronunciation | Writing | Reading | Comprehension | Vocabulary | Overall Total |
|------|-----------|---------------|---------|---------|---------------|------------|---------------|
| N    | 808       | 808           | 808     | 808     | 808           | 808        | 808           |
| Mean | 7.85      | 1.43          | 3.77    | 4.29    | 1.79          | 4.517      | 24            |

**Table 4.1.10b:**  
**Competency-wise level of achievement in Mizo**

| Selected MLL Competencies in Mizo. | Below 30% |       | Mastery (80%&above) |       |
|------------------------------------|-----------|-------|---------------------|-------|
|                                    | N         | %     | N                   | %     |
| Listening                          | 8         | 0.99  | 494                 | 61.14 |
| Pronunciation                      | 250       | 30.94 | 33                  | 4.08  |
| Writing Skills                     | 56        | 6.93  | 316                 | 39.11 |
| Reading Skills                     | 402       | 49.75 | 1                   | 0.12  |
| Comprehension                      | 344       | 42.57 | 76                  | 9.41  |
| Vocabulary                         | 147       | 18.19 | 64                  | 7.92  |

As per the data shown in Table 4.1.10a above, very poor performance of children is found in the areas of pronunciation and comprehension where the mean scores are only 1.43 and 1.79 respectively. The highest mean score is found against the MLL competency area of listening. Theoretically, children are able to think in terms of a set of interrelated principles rather than single bits of knowledge since they are mostly within the age group of 8-10 years which falls within the Piaget's Concrete Operational stage (i.e 7 – 11). However, it is apparent from the



data that the children are least developed in the areas which require the children to use their reasoning and imagination.

Table 4.1.10b also reveals that in Mizo (Language), 61.14% of sample children attain mastery level in the MLL competency area of listening whereas only 0.99% of them have scored less than 30% of the total marks in the same area. Only 1(one) child (i.e.0.12%) attains mastery level in the area of reading whereas nearly half (49.75%) of the sample children have scored less than 30% in the same area. Reading includes questions/ items involving reading of other's handwriting, road signs, notices and simple story with understanding. During field work, it was disheartening to see that children who appeared to be good in speaking and listening had returned their answer sheets blank on the items that required original thinking. This is, perhaps, the result of missing conceptual understanding on their learning.

#### 4.2.0 Section II: Comparison of Performance and Level of Achievement of CI-IV Children.

##### 4.2.1 A. School Management-wise comparison:

| Table 4.2.11:<br>Management-wise Performance in EVS, Mathematics and Mizo |                       |              |      |             |              |      |      |              |      |
|---|-----------------------|--------------|------|-------------|--------------|------|------|--------------|------|
| Management  | Environmental studies |              |      | Mathematics |              |      | Mizo |              |      |
|   | N                     | Mean         | SD   | N           | Mean         | SD   | N    | Mean         | SD   |
| Govt.   | 384                   | <b>19.62</b> | 6.29 | 384         | 13.04        | 4.85 | 384  | <b>25.38</b> | 6.56 |
| Private   | 424                   | 18.26        | 6.17 | 424         | <b>14.62</b> | 4.68 | 424  | 22.09        | 6.30 |
| Total   | 808                   | 18.91        | 6.26 | 808         | 13.87        | 4.83 | 808  | 23.65        | 6.62 |
| t'  |                       | <b>6.45</b>  |      |             | <b>-7.52</b> |      |      | <b>15.61</b> |      |

It is striking to note from Table 4.2.11 that when comparison of performance of children is made between government schools and Private schools, significant difference is established in all the three subjects. In Environmental Studies and Mizo, government Schools are significantly better than Private schools wherein the 't' calculated values are more than the Table value of 't' both at .01 and .05 levels. This implies that the difference of the mean scores between government schools and Private schools in these two subjects can be said as real difference, which is not by chance and hence significant. But in the case of Mathematics, Private schools are significantly better than government Schools as the 't' calculated value is more than the table 't' value at both .01 and .05 levels.

**Table 4.2.12:**  
**Management-wise Level of Achievement in Environmental Studies**

| Ranges                 | Type of School |       |         |       | Total |       |
|------------------------|----------------|-------|---------|-------|-------|-------|
|                        | Government     |       | Private |       | N     | %     |
|                        | N              | %     | N       | %     |       |       |
| Mastery(80% and Above) | 0              | 0     | 2       | 0.47  | 2     | 0.25  |
| 60%-79%                | 114            | 29.69 | 76      | 17.92 | 190   | 23.51 |
| 45%-59%                | 131            | 34.11 | 159     | 37.50 | 290   | 35.89 |
| 30%-44%                | 93             | 24.22 | 122     | 28.77 | 215   | 26.61 |
| Below 30%              | 46             | 11.98 | 65      | 15.33 | 111   | 13.74 |

The above table (Table 4.2.12) presents the level of achievement in Environmental Studies of the two types of schools, i.e., government managed schools and Private managed schools. The table reveals that no child from government schools attains mastery level whereas 0.47% of children from Private schools attain so. The largest numbers of sample children both from government and Private schools are found securing marks within the range of 45%-59%. Further, mention may also be made

that 11.98% of sample children in government schools secure marks less than 30% of the total marks whereas 15.33% of children in Private schools secure the same. Although 0.47% of children from Private schools attain mastery level, there are 15.33% of children who secure marks less than 30% of the total marks in Private schools which is larger than the number of children securing marks within the same range from government schools.

**Table 4.2.13:**  
**Management-wise level of achievement in Mathematics.**

| Ranges             | Type of School |       |         |       | Total |       |
|--------------------|----------------|-------|---------|-------|-------|-------|
|                    | Government     |       | Private |       | N     | %     |
|                    | N              | %     | N       | %     |       |       |
| Mastery(80%&above) | 0              | 0     | 0       | 0     | 0     | 0     |
| 60%-79%            | 8              | 2.08  | 12      | 2.83  | 20    | 2.48  |
| 45%-59%            | 59             | 15.36 | 90      | 21.23 | 149   | 18.44 |
| 30%-44%            | 174            | 45.31 | 214     | 50.47 | 388   | 48.02 |
| Below 30%          | 143            | 37.24 | 108     | 25.47 | 251   | 31.06 |
| Total              | 384            | 100   | 424     | 100   | 808   | 100   |

Table 4.2.13 shows that no one from both government and Private schools attains mastery level in Mathematics. The largest percentage of sample children (48.02%) both from the two types of schools secure marks which fall within the range of 30%-44%. Mention may also be made that 31.06% of sample children (37.24% from government schools and 25.47% from Private schools) secure marks less than 30% of the total marks. The overall level of achievement of private school children is little higher than that of government school children.

| Table 4.2.14                                   |                |       |         |       |       |       |
|--|----------------|-------|---------|-------|-------|-------|
| : Management-wise Level of Achievement in Mizo |                |       |         |       |       |       |
| Ranges   | Type of School |       |         |       | Total |       |
|  | Government     |       | Private |       |       |       |
|  | N              | %     | N       | %     | N     | %     |
| Mastery(80% and Above)                         | 71             | 18.49 | 24      | 5.66  | 95    | 11.76 |
| 60%-79%  | 157            | 40.89 | 148     | 34.91 | 305   | 37.75 |
| 45%-59%  | 100            | 26.04 | 137     | 32.31 | 237   | 29.33 |
| 30%-44%  | 47             | 12.24 | 96      | 22.64 | 143   | 17.70 |
| Below 30%                                      | 9              | 2.34  | 19      | 4.48  | 28    | 3.47  |
| Total  | 384            | 100   | 424     | 100   | 808   | 100   |

A cursory glance at Table 4.2.14 above tells us that in Mizo, 18.49% of sample children of government schools attain mastery level whereas 5.66% children in Private schools attain the same level. The percentage of children securing marks less than 30% of the total mark is larger in Private schools (4.48%) than government schools (2.34%). The largest number of children is found securing marks which fall within the range of 60%-79% both in the case of government and Private schools. By considering the level of achievement in Mizo as shown in the above Table, children from government schools are slightly better than children from Private schools.

| Area of MLL<br>competencies<br>covered in<br>the test. | Govt (N=384)                 |       |                  |       | Private (N=424)              |       |                  |       |
|--|------------------------------|-------|------------------|-------|------------------------------|-------|------------------|-------|
|  | Zero<br>correct<br>responses |       | Mastery<br>level |       | Zero<br>correct<br>responses |       | Mastery<br>level |       |
|  | N                            | %     | N                | %     | N                            | %     | N                | %     |
| Civic Amenities  | 27                           | 7.03  | 30               | 7.81  | 34                           | 8.02  | 35               | 8.25  |
| Geography  | 253                          | 65.89 | 131              | 34.11 | 294                          | 69.34 | 130              | 30.66 |
| Reading Map  | 83                           | 21.61 | 35               | 9.11  | 82                           | 19.34 | 44               | 10.38 |
| Early man.   | 65                           | 16.93 | 14               | 3.65  | 68                           | 16.04 | 13               | 3.07  |
| Population   | 101                          | 26.30 | 133              | 34.64 | 122                          | 28.77 | 131              | 30.90 |
| Personal Hygiene                                       | 52                           | 13.54 | 66               | 17.19 | 67                           | 15.80 | 51               | 12.03 |
| Environment  | 14                           | 3.65  | 89               | 23.18 | 14                           | 3.30  | 79               | 18.63 |
| Solar system   | 74                           | 19.27 | 16               | 4.17  | 97                           | 22.88 | 11               | 2.59  |
| Air/water pollution                                    | 50                           | 13.02 | 38               | 9.90  | 71                           | 16.75 | 41               | 9.67  |

With regard to achievement of mastery level learning in EVS, the percentages of children of government schools achieving this level are higher than that of private schools in 7 out of 9 areas of MLL competency given in the table. On the other hand, the percentages of children of government schools with zero correct response are less than that of private schools in 6 out of 9 areas of MLL competency. All these reflect the higher level of achievement in respect of government school children as compared to children of private schools. However, the position of children of government schools is far from satisfactory as achievement of mastery level by at least 80% children is a necessity in MLL.

Geography involving the general knowledge of physical features of Mizoram is one MLL major item in which as many as 65.89% and 69.34% of children from government and private schools respectively get zero correct response. On the other hand, it is also an item in which the percentages of

children from both the types of schools (34.11% and 30.66%) achieving mastery level are second highest next to population item. Environment and civic amenities are the two major items in which less than 10% of children from both the schools get zero correct response whereas the percentages are more than 10% in all other items.

It is striking to note that most of the children are very weak in map reading and understanding of its signs. Only 9.11% and 10.38% children from government and Private schools respectively are able to read and understand political map of India and the state political map of Mizoram properly. In this particular item, children were asked to locate own state in India's map and own district in a map of Mizoram. Nearly 90% of children were unable to locate own state and own district correctly. Percentage of children achieving mastery level is higher in Private schools than government schools in the items of civic amenities and map reading only. In the remaining seven items of MLL competencies, the percentages of children achieving mastery level are higher in government schools than in Private schools. This reveals that in this particular subject, children of government schools are better than that of private schools.

| Table 4.2.16 :<br>Management-wise level of achievement in Mathematics items<br>corresponding with MLL Competencies. |                        |       |               |       |                        |       |               |       |
|---|------------------------|-------|---------------|-------|------------------------|-------|---------------|-------|
| Area of MLL<br>competencies<br>covered in<br>the test.  | Govt (N=384)           |       |               |       | Private (N=424)        |       |               |       |
|   | Zero correct responses |       | Mastery level |       | Zero correct responses |       | Mastery level |       |
|   | N                      | %     | N             | %     | N                      | %     | N             | %     |
| Number Concept  | 19                     | 4.95  | 3             | 0.78  | 23                     | 5.42  | 15            | 3.54  |
| Arithmetic Operations   | 51                     | 13.28 | 66            | 17.19 | 29                     | 6.84  | 93            | 21.93 |
| Daily problem in life   | 10                     | 2.60  | 9             | 2.34  | 5                      | 1.18  | 12            | 2.83  |
| Reading clock   | 170                    | 44.27 | 143           | 37.24 | 142                    | 33.49 | 207           | 48.82 |
| Reading Calender  | 206                    | 53.65 | 0             | 0.00  | 186                    | 43.87 | 3             | 0.71  |
| Fraction  | 237                    | 61.72 | 20            | 5.21  | 254                    | 59.91 | 28            | 6.60  |
| Geometrical shapes  | 263                    | 68.49 | 4             | 1.04  | 181                    | 42.69 | 19            | 4.48  |

The above table reveals the better position of children of private schools than that of government schools in Mathematics. The percentages of children of private schools achieving mastery level are higher in all the 7 areas of MLL competency whereas the percentages of the children without any correct response are lower in 6 out of the 7 areas, than that of government schools.

If we examine table 4.2.16 carefully, we can find that most children are found very weak in Mathematics items corresponding with MLL competency such as geometrical shapes, fractions, reading calendar and reading clock irrespective of school types. More than half of the children fail to give correct answer to all the questions/items relating to geometrical shapes which involves naming of various geometrical shapes likes cube, cuboids, triangle, etc., and responses to fraction identification. Moreover, 392 (48.51%) children are unable to read and interpret calendar properly. 377 (46.65%) of the children also fail to read clock correctly. In all the

Mathematics items corresponding with MLL competencies, the number of children achieving mastery level is higher in private schools than in government schools. Hence, we can conclude that private schools are better than government schools in Mathematics.

**Table 4.2.17 :**  
**Mangement-wise level of achievement in Mizo items corresponding with MLL Competencies.**

| Area of MLL competencies covered in the test. | Govt (N=384)           |       |               |       | Private (N=424)        |       |               |       |
|---|------------------------|-------|---------------|-------|------------------------|-------|---------------|-------|
|   | Zero correct responses |       | Mastery level |       | Zero correct responses |       | Mastery level |       |
|   | N                      | %     | N             | %     | N                      | %     | N             | %     |
| Listening                                     | 1                      | 0.26  | 266           | 69.27 | 0                      | 0.00  | 228           | 53.77 |
| Pronunciation                                 | 92                     | 23.96 | 23            | 5.99  | 114                    | 26.89 | 10            | 2.36  |
| Writings                                      | 9                      | 2.34  | 176           | 45.83 | 13                     | 3.07  | 140           | 33.02 |
| Reading                                       | 15                     | 3.91  | 1             | 0.26  | 26                     | 6.13  | 0             | 0.00  |
| Comprehension                                 | 54                     | 14.06 | 52            | 13.54 | 89                     | 20.99 | 24            | 5.66  |
| Vocabulary                                    | 1                      | 0.26  | 37            | 9.64  | 2                      | 0.47  | 27            | 6.37  |
|   |                        |       |               |       |                        |       |               |       |

Table 4.2.17 reveals that children of government schools are much better than that of private schools so far as their level of achievement in Mizo is concerned. The percentages of children of government schools achieving mastery level are higher than that of private schools in all the 6 areas of MLL competency. At the same time, the percentages of these children who fail to give any correct response, are lower in 5 out of the 6 areas, than those of private schools.

In Mizo (language), the percentages of children achieving mastery level in all the items corresponding with MLL competencies are higher in government schools than in private schools. The items concerning correct pronunciation appear to be the most difficult items for both government and



private schools since 23.96% and 26.89% of children respectively from these schools fail to answer correctly all the questions/items relating to this MLL competency. Level of achievement is found very low in reading competency wherein only 0.26% children of government schools and no one (0%) from private schools achieve mastery level in this particular item of MLL competency. Questions/items concerning to reading competency include question-answer from a given short-story. Level of achievement is found mostly high in listening competency in which 69.27% and 53.77% of children from both types of schools achieve mastery level.

**4.2.2** B. School Location-wise comparison:

**Table 4.2.18:**  
**School Location-wise performance in EVS, Mathematics and Mizo.**

|          | Environmental Studies |       |      |       |              |      | Mathematics  |       |      |       |              |      | Mizo         |       |      |       |              |      |
|----------|-----------------------|-------|------|-------|--------------|------|--------------|-------|------|-------|--------------|------|--------------|-------|------|-------|--------------|------|
|          | Rural                 |       |      | Urban |              |      | Rural        |       |      | Urban |              |      | Rural        |       |      | Urban |              |      |
|          | N                     | Mean  | SD   | N     | Mean         | SD   | N            | Mean  | SD   | N     | Mean         | SD   | N            | Mean  | SD   | N     | Mean         | SD   |
|          | 305                   | 18.23 | 6.53 | 503   | <b>19.32</b> | 6.06 | 305          | 13.67 | 5.12 | 503   | <b>13.99</b> | 4.65 | 305          | 22.41 | 6.70 | 503   | <b>24.40</b> | 6.46 |
| t' value | <b>-5.01</b>          |       |      |       |              |      | <b>-1.48</b> |       |      |       |              |      | <b>-9.20</b> |       |      |       |              |      |

Table 4.2.18 depicts that in all the three subjects, children belonging to urban schools significantly perform better than their counterpart in rural schools. It may be noted that the 't' calculated value of -5.01 in Environmental studies and -9.20 in Mizo are greater than the table 't' values at .01 and .05 levels. However, the 't' value of -1.48 between rural and urban schools in Mathematics is more than the table 't' value only at .05 level.

| <b>Table 4.2.19:</b>   |          |       |       |       |       |       |
|--|----------|-------|-------|-------|-------|-------|
| <b>School Location-wise Level of Achievement<br/>in Environmental Studies.</b> |          |       |       |       |       |       |
| Ranges   | Locality |       |       |       | Total |       |
|  | Rural    |       | Urban |       |       |       |
|  | N        | %     | N     | %     | N     | %     |
| Mastery(80% and Above)   | 0        | 0     | 2     | 0.40  | 2     | 0.25  |
| 60-79%   | 71       | 23.28 | 119   | 23.66 | 190   | 23.51 |
| 45-59%   | 90       | 29.51 | 200   | 39.76 | 290   | 35.89 |
| 30-44%   | 91       | 29.84 | 124   | 24.65 | 215   | 26.61 |
| Below 30%  | 53       | 17.38 | 58    | 11.53 | 111   | 13.74 |
| Total  | 305      | 100   | 503   | 100   | 808   | 100   |

As shown in Table 4.2.19 given above, 0.40% of children from urban schools attain mastery level whereas no one from rural schools attains this level in Environmental Studies. There are 17.38% children in rural schools who secure less than 30% marks whereas the percentage of children who score the same level of marks is 11.53% in the case of urban schools. Of the five different ranges of level of achievement, 30%-44% is the range in which the highest percentage of children from rural schools falls whereas it is 45%-59% for children of urban schools. As a whole, children of urban schools perform a little bit better than children of rural schools.

| <b>Table 4.2.20:</b>  |          |      |       |      |       |      |
|---|----------|------|-------|------|-------|------|
| <b>School Location-wise Level of Achievement<br/>in Mathematics</b> |          |      |       |      |       |      |
| Ranges  | Locality |      |       |      | Total |      |
|   | Rural    |      | Urban |      |       |      |
|   | N        | %    | N     | %    | N     | %    |
| Mastery(80%&above)  | 0        | 0    | 0     | 0    | 0     | 0    |
| 60-79%  | 9        | 2.95 | 11    | 2.19 | 20    | 2.48 |
| 45-59%  | 58       | 19   | 91    | 18.1 | 149   | 18.4 |
| 30-44%  | 141      | 46.2 | 247   | 49.1 | 388   | 48   |
| Below 30%   | 97       | 31.8 | 154   | 30.6 | 251   | 31.1 |
| Total   | 305      | 100  | 503   | 100  | 808   | 100  |

Location-wise level of achievement in Mathematics shown in Table 4.2.20 above indicates that no child both from rural and urban schools attains mastery level. The largest percentages of children (46.25% of rural school children and 49.1% of urban school children) secure marks which fall within the range of 30%-44%. Further, 31.8% of rural school children and 30.6% of urban school children secure marks less than 30% of the total marks. Children of rural schools perform a little bit better than that of urban schools.

| <b>Table 4.2.21:</b>                                     |          |             |       |             |       |      |
|--|----------|-------------|-------|-------------|-------|------|
| <b>School Location-wise Level of Achievement in Mizo</b> |          |             |       |             |       |      |
| Ranges   | Locality |             |       |             | Total |      |
|  | Rural    |             | Urban |             |       |      |
|  | N        | %           | N     | %           | N     | %    |
| Mastery(80% and Above)                                   | 31       | 10.2        | 64    | 12.7        | 95    | 11.8 |
| 60-79%   | 94       | <b>30.8</b> | 211   | <b>41.9</b> | 305   | 37.7 |
| 45-59%   | 94       | 30.8        | 143   | 28.4        | 237   | 29.3 |
| 30-44%   | 73       | 23.9        | 70    | 13.9        | 143   | 17.7 |
| Below 30%  | 13       | 4.26        | 15    | 2.98        | 28    | 3.47 |
| Total  | 305      | 100         | 503   | 100         | 808   | 100  |

A casual look at Table 4.2.21 reveals that 10.2% of sample children in rural schools attain mastery level whereas 12.7% children in urban schools attain the same level. The percentage of children securing less than 29% marks is higher in rural schools (4.26%) than in urban schools (2.98%). In both the cases, the percentage of children securing marks between 60%-79% is largest. When the children of both rural and

urban schools are compared based on their level of achievement in Mizo, children of urban schools are better than that of rural schools.

**Table 4.2.22 :**  
**School Location-wise level of achievement in Environmental Studies items corresponding with MLL Competencies.**

| Area of MLL competencies covered in the test. | Rural (N=305)          |       |               |       | Urban(N=503)           |       |               |       |
|---|------------------------|-------|---------------|-------|------------------------|-------|---------------|-------|
|   | Zero correct responses |       | Mastery level |       | Zero correct responses |       | Mastery level |       |
|   | N                      | %     | N             | %     | N                      | %     | N             | %     |
| Civic Amenities                               | 31                     | 10.16 | 20            | 6.56  | 30                     | 5.96  | 45            | 8.95  |
| Geography                                     | 211                    | 69.18 | 94            | 30.82 | 336                    | 66.80 | 167           | 33.20 |
| Reading Map                                   | 65                     | 21.31 | 33            | 10.82 | 100                    | 19.88 | 46            | 9.15  |
| Early man.                                    | 54                     | 17.70 | 10            | 3.28  | 79                     | 15.71 | 17            | 3.38  |
| Population                                    | 94                     | 30.82 | 93            | 30.49 | 129                    | 25.65 | 171           | 34.00 |
| Personal Hygiene                              | 47                     | 15.41 | 38            | 12.46 | 72                     | 14.31 | 79            | 15.71 |
| Environment                                   | 11                     | 3.61  | 53            | 17.38 | 17                     | 3.38  | 115           | 22.86 |
| Solar system                                  | 60                     | 19.67 | 12            | 3.93  | 111                    | 22.07 | 15            | 2.98  |
| Air/water pollution                           | 56                     | 18.36 | 32            | 10.49 | 65                     | 12.92 | 47            | 9.34  |

Table 4.2.22 depicts that the percentage of children from urban schools achieving mastery level is higher than that from rural schools in the areas of MLL competency like civic amenities, geography, early man, population education, personal hygiene and Environment. On the other hand, children of rural schools are better than that of urban schools in the MLL competency items such as reading map, solar system and air/water pollution. Out of the nine areas of MLL competency in Environmental Studies, Geography concerning the general physical features of Mizoram appears to be the most difficult item since the answers of more than half of the sample children both from rural (69.18%) and urban (66.80%) schools are incorrect for all the questions/items of this particular competency.

| Area of MLL competencies covered in the test. | Rural (N=305)          |       |               |       | Urban (N=503)          |       |               |       |
|---|------------------------|-------|---------------|-------|------------------------|-------|---------------|-------|
|   | Zero correct responses |       | Mastery level |       | Zero correct responses |       | Mastery level |       |
|   | N                      | %     | N             | %     | N                      | %     | N             | %     |
| Number Concept                                | 19                     | 6.23  | 4             | 1.31  | 23                     | 4.57  | 14            | 2.78  |
| Arithmetic Operations                         | 33                     | 10.82 | 47            | 15.41 | 47                     | 9.34  | 112           | 22.27 |
| Daily problem in life                         | 8                      | 2.62  | 12            | 3.93  | 7                      | 1.39  | 9             | 1.79  |
| Reading clock                                 | 132                    | 43.28 | 123           | 40.33 | 180                    | 35.79 | 227           | 45.13 |
| Reading Calender                              | 153                    | 50.16 | 0             | 0.00  | 239                    | 47.51 | 3             | 0.60  |
| Fraction                                      | 168                    | 55.08 | 37            | 12.13 | 323                    | 64.21 | 11            | 2.19  |
| Geometrical shapes                            | 204                    | 66.89 | 0             | 0.00  | 240                    | 47.71 | 23            | 4.57  |

A perusal of Table 4.2.23 reveals that 66.89%, 55.08% and 50.16% of sample rural school children fail to give correct answers to all the questions/items in geometrical shapes, fraction and reading calendar respectively. At the same time, the responses of 47.71%, 64.21% and 47.51% of sample urban school children for all the questions/ items relating to geometrical shapes, fraction and reading calendar respectively are all wrong. While 'geometrical shapes' is an item most difficult for rural school children, fraction is most difficult for children of urban schools. The percentages of children getting zero correct response are higher among the children of rural schools than that of urban schools for all the MLL competency items except fraction. At the same time, the percentages of children obtaining mastery level of achievement are higher among the children of urban schools in all the competency items except 'daily problem in life' and 'fraction'. These may reflect the fact that urban school children are better than rural school children.

| Table 4.2.24 :<br>School Location-wise level of achievement in Mizo items<br>corresponding with MLL Competencies. |                           |       |                  |       |                           |       |                  |       |
|---|---------------------------|-------|------------------|-------|---------------------------|-------|------------------|-------|
| Area of MLL<br>competencies<br>covered in<br>the test.  | Rural (N=305)             |       |                  |       | Urban(N=503)              |       |                  |       |
|   | Zero correct<br>responses |       | Mastery<br>level |       | Zero correct<br>responses |       | Mastery<br>level |       |
|   | N                         | %     | N                | %     | N                         | %     | N                | %     |
| Listening   | 1                         | 0.33  | 172              | 56.39 | 0                         | 0.00  | 322              | 64.02 |
| Pronunciation   | 94                        | 30.82 | 17               | 5.57  | 112                       | 22.27 | 16               | 3.18  |
| Writings  | 12                        | 3.93  | 115              | 37.70 | 10                        | 1.99  | 201              | 39.96 |
| Reading   | 20                        | 6.56  | 1                | 0.33  | 21                        | 4.17  | 0                | 0.00  |
| Comprehension   | 65                        | 21.31 | 24               | 7.87  | 78                        | 15.51 | 52               | 10.34 |
| Vocabulary  | 1                         | 0.33  | 21               | 6.89  | 2                         | 0.40  | 43               | 8.55  |

Table 4.2.24 reveals that pronunciation and comprehension are the two areas of MLL competency in which there are higher percentages of children who get zero correct responses. As the said percentages are higher among the children of rural schools, these children are considered to be poorer with regard to their level of achievement than urban school children. Besides, listening and writing are the two MLL competency areas where the percentages of children getting mastery level of achievement are highest for children of both the rural and urban schools. In these areas and the rest, except pronunciation and reading, the achievement level of children of urban schools is higher than that of rural schools.

#### 4.2.3

#### C. Gender-wise comparison:

| Table 4.2.25:<br>Gender-wise performance in EVS, Mathematics and Mizo. |                       |       |       |              |              |       |              |       |       |
|--|-----------------------|-------|-------|--------------|--------------|-------|--------------|-------|-------|
|  | Enviornmental Studies |       |       | Mathematics  |              |       | Mizo         |       |       |
|  | Boy                   | Girl  | Total | Boy          | Girl         | Total | Boy          | Girl  | Total |
| N  | 383                   | 425   | 808   | 383          | 425          | 808   | 383          | 425   | 808   |
| Mean   | 18.93                 | 18.89 | 18.91 | 13.47        | <b>14.24</b> | 13.87 | <b>24.30</b> | 23.06 | 23.65 |
| Std. Deviation   | 6.54                  | 6.00  | 6.26  | 4.46         | 5.12         | 4.83  | 6.30         | 6.86  | 6.62  |
| t'   | 0.21                  |       |       | <b>-3.65</b> |              |       | <b>5.90</b>  |       |       |
| Df   | 806                   |       |       | 806          |              |       | 806          |       |       |

Table 4.2.25 depicts that in gender-wise comparison of the performances of sample Class IV children, girls are significantly better than boys in Mathematics whereas boys are significantly better than girls in Mizo. In Environmental Studies, no such significant difference is established between boys and girls. In other words, the 't' calculated value in Mathematics and Mizo at -3.65 and 5.90 respectively are found greater than the table 't' value at .01 and .05 levels. Hence, it can be assumed that the differences between mean scores of boys and girls in these two subjects, i.e Mathematics and Mizo, are real difference and not by chance. Moreover, the 't' calculated value of 0.21 in Environmental studies is less than the table 't' value at .05 and .01 levels and as such, the difference between mean scores of boys and girls in this particular subject is minimal and cannot be assumed as real difference . In other words, the difference between mean scores of boys and girls in Environmental Studies can be by chance and hence statistically insignificant.

| Table 4.2.26:                            |        |       |      |     |       |      |
|--|--------|-------|------|-----|-------|------|
| Gender-wise level of achievement in EVS. |        |       |      |     |       |      |
| Level of Achievement<br>in EVS           | Gender |       |      |     |       |      |
|  | Boy    |       | Girl |     | Total |      |
|  | N      | %     | N    | %   | N     | %    |
| Mastery(80% and Above)                   | 1      | 0.261 | 1    | 0.2 | 2     | 0.25 |
| 60-79%                                   | 102    | 26.63 | 88   | 21  | 190   | 23.5 |
| 45-59%                                   | 126    | 32.9  | 164  | 39  | 290   | 35.9 |
| 30-44%                                   | 99     | 25.85 | 116  | 27  | 215   | 26.6 |
| Below 30%                                | 55     | 14.36 | 56   | 13  | 111   | 13.7 |

The gender-wise level of achievement in Environmental Studies given in Table 4.2.26 reveals that boys are little better than girls. It appears from the given table that 0.26% of boys and 0.2% of girl attain mastery level in this subject whereas 14.36% of boys and 13% of girls secure marks less than 29% of the total marks. The highest concentration of boys and girls is also found within the given mark ranges between 45-59%. 26.63% of boys are found within the mark range of 60%-79% whereas 21% of girls are found within the same range.

| Table 4.2.27:                                   |        |       |      |     |       |      |
|---|--------|-------|------|-----|-------|------|
| Gender-wise level of achievement in Mathematics |        |       |      |     |       |      |
| Level of Achievement<br>in Mathematics          | Gender |       |      |     |       |      |
|   | Boy    |       | Girl |     | Total |      |
|   | N      | %     | N    | %   | N     | %    |
| Mastery(80% and Above)                          | 0      | 0     | 0    | 0   | 0     | 0    |
| 60-79%  | 4      | 1.044 | 16   | 3.8 | 20    | 2.48 |
| 45-59%  | 61     | 15.93 | 88   | 21  | 149   | 18.4 |
| 30-44%  | 195    | 50.91 | 193  | 45  | 388   | 48   |
| Below 30%                                       | 123    | 32.11 | 128  | 30  | 251   | 31.1 |



The gender-wise level of achievement in Mathematics is also given in Table 4.2.27 and analysed. It appears from the given table that there is no one amongst the two sexes who attain mastery level in this subject. Moreover, 32.11% of boys and 30% of girls (about one-third of the sample children) secure marks less than 29% of the total marks. The highest concentration of boys and girls is also found within the given mark ranges between 30-45%. Only 1.04% of boys are found within the mark range of 60-79% whereas 3.8% of girls are found within the same range. As a whole, girls are little better than boys with regard to their level of achievement in mathematics.

**Table 4.2.28: Gender-wise level of achievement in Mizo**

| Level of Achievement in Mizo | Gender |       |      |     |       |      |
|------------------------------|--------|-------|------|-----|-------|------|
|                              | Boy    |       | Girl |     | Total |      |
|                              | N      | %     | N    | %   | N     | %    |
| Mastery(80% and Above)       | 51     | 13.32 | 44   | 10  | 95    | 11.8 |
| 60-79%                       | 146    | 38.12 | 159  | 37  | 305   | 37.7 |
| 45-59%                       | 121    | 31.59 | 116  | 27  | 237   | 29.3 |
| 30-44%                       | 60     | 15.67 | 83   | 20  | 143   | 17.7 |
| Below 30%                    | 5      | 1.305 | 23   | 5.4 | 28    | 3.47 |
| Total                        | 383    | 100   | 425  | 100 | 808   | 100  |

The above Table shows that the percentages of boys who achieve the mastery level of learning and who secure 60-79% of marks and also 45-59% are higher than that of girls. At the same time, the percentages of boys securing lower marks are lower than that of girls. These imply that boys' achievement level in Mizo subject is higher than that of girls.

| Table 4.2.29 :<br>Gender-wise level of achievement in Environmental Studies items<br>corresponding with MLL Competencies. |                              |       |                  |       |                              |       |                  |       |
|---|------------------------------|-------|------------------|-------|------------------------------|-------|------------------|-------|
| Area of MLL<br>competencies<br>covered in<br>the test.  | Boys (N=383)                 |       |                  |       | Girls (N=425)                |       |                  |       |
|   | Zero<br>correct<br>responses |       | Mastery<br>level |       | Zero<br>correct<br>responses |       | Mastery<br>level |       |
|   | N                            | %     | N                | %     | N                            | %     | N                | %     |
| Civic Amenities   | 32                           | 8.36  | 20               | 5.22  | 29                           | 6.82  | 45               | 10.59 |
| Geography   | 249                          | 65.01 | 134              | 34.99 | 298                          | 70.12 | 127              | 29.88 |
| Reading Map   | 49                           | 12.79 | 15               | 3.92  | 66                           | 15.53 | 20               | 4.71  |
| Early man.  | 72                           | 18.80 | 13               | 3.39  | 61                           | 14.35 | 14               | 3.29  |
| Population  | 109                          | 28.46 | 119              | 31.07 | 114                          | 26.82 | 145              | 34.12 |
| Personal Hygiene  | 66                           | 17.23 | 61               | 15.93 | 53                           | 12.47 | 56               | 13.18 |
| Environment   | 14                           | 3.66  | 89               | 23.24 | 14                           | 3.29  | 79               | 18.59 |
| Solar system  | 86                           | 22.45 | 14               | 3.66  | 85                           | 20.00 | 13               | 3.06  |
| Air/water pollution   | 56                           | 14.62 | 43               | 11.23 | 65                           | 15.29 | 36               | 8.47  |

Geography is the area of MLL competency in which majority of the children (65.01% of boys and 70.12% of girls) performs very badly with zero correct response. On the other hand, it is the area in which the largest percentage of boys (34.99%) and second largest percentage of girls (29.88%) achieve mastery level. In terms of freedom from zero correct responses, girls are better than boys as the percentages of girls with zero correct responses are less than that of the boys in 6 MLL areas out of 9. In terms of achievement at mastery level, boys are better in 6 out of 9 areas than girls. Taken as a whole, boys are considered to be better than girls as MLL is more concerned with achievement of mastery level of learning,

| Table 4.2.30 :   |                        |       |               |       |                        |       |               |       |
|--|------------------------|-------|---------------|-------|------------------------|-------|---------------|-------|
| Gender-wise level of achievement in Mathematics items corresponding with MLL Competencies. |                        |       |               |       |                        |       |               |       |
| Area of MLL competencies covered in the test.  | Boys (N=383)           |       |               |       | Girls (N=425)          |       |               |       |
|  | Zero correct responses |       | Mastery level |       | Zero correct responses |       | Mastery level |       |
|  | N                      | %     | N             | %     | N                      | %     | N             | %     |
| Number Concept   | 10                     | 2.61  | 4             | 1.04  | 32                     | 7.53  | 14            | 3.29  |
| Arithmetic Operations  | 43                     | 11.23 | 57            | 14.88 | 37                     | 8.71  | 102           | 24.00 |
| Daily problem in life  | 10                     | 2.61  | 6             | 1.57  | 5                      | 1.18  | 15            | 3.53  |
| Reading clock  | 159                    | 41.51 | 154           | 40.21 | 153                    | 36.00 | 196           | 46.12 |
| Reading Calender   | 192                    | 50.13 | 1             | 0.26  | 200                    | 47.06 | 2             | 0.47  |
| Fraction   | 253                    | 66.06 | 19            | 4.96  | 238                    | 56.00 | 29            | 6.82  |
| Geometrical shapes   | 227                    | 59.27 | 9             | 2.35  | 217                    | 51.06 | 14            | 3.29  |

From the data presented in Table 4.2.30, it can be inferred that girls are better than boys in terms of zero correct responses and achievement of mastery level learning. The order of difficulty level of various MLL areas is almost same for both boys and girls. Children are found very weak in Mathematic items corresponding with MLL competencies such as reading calendar, geometrical shapes, fractions and reading clock irrespective of gender. In these four particular items of MLL competency, number of zero correct responses is found very high and at the same time, attainment of mastery level is very low. More than half of the children fail to answer correctly all the questions/items relating to geometrical shapes like cube, cuboids, triangle, etc., and fraction identification. Of the children, 192 (50.13%) boys and 200 (47.06%) girls are unable to read and interpret calendar properly. Moreover, 159 (41.51%) boys and 153 (36%) girls fail to read clock correctly. In all the Mathematics items corresponding with MLL competencies, the number of girls achieving mastery level is higher than

boys. Based on zero correct responses, fraction is the most difficult area of MLL competency for both boys and girls and reading calendar is also the most difficult item based on attainment of mastery level learning.

| <b>Table 4.2.31 :</b>  |                        |       |               |              |                        |       |               |             |
|--|------------------------|-------|---------------|--------------|------------------------|-------|---------------|-------------|
| <b>Gender-wise level of achievement in Mizo items corresponding with MLL Competencies.</b> |                        |       |               |              |                        |       |               |             |
| Area of MLL competencies covered in the test.  | Boys (N=383)           |       |               |              | Girls (N=425)          |       |               |             |
|  | Zero correct responses |       | Mastery level |              | Zero correct responses |       | Mastery level |             |
|  | N                      | %     | N             | %            | N                      | %     | N             | %           |
| Listening  | 0                      | 0.00  | 258           | <b>67.36</b> | 1                      | 0.24  | 236           | 55.53       |
| Pronunciation  | 102                    | 26.63 | 14            | 3.66         | 104                    | 24.47 | 19            | <b>4.47</b> |
| Writings   | 10                     | 2.61  | 165           | <b>43.08</b> | 12                     | 2.82  | 151           | 35.53       |
| Reading  | 15                     | 3.92  | 0             | 0.00         | 26                     | 6.12  | 1             | <b>0.24</b> |
| Comprehension  | 57                     | 14.88 | 40            | <b>10.44</b> | 86                     | 20.24 | 36            | 8.47        |
| Vocabulary   | 2                      | 0.52  | 31            | <b>8.09</b>  | 1                      | 0.24  | 33            | 7.76        |

Table 4.2.31 reveals that in Mizo (language), boys perform better than girls as the percentages of boys having zero correct response are less than that of girls in 4 out of 6 areas of MLL competency and the percentages of boys achieving mastery level are higher in 4 out of 6 areas, than that of the girls. In terms of zero correct response, listening, writing, reading and comprehension are the areas in which boys do better and listening, writing, comprehension and vocabulary are the areas in which more boys achieve mastery level of learning. Amongst boys there is no one achieving mastery level on reading competency item involving question-answer from a given short-story whereas 0.24% of girls attain mastery level in this particular

item. Level of achievement is highest in listening competency in which 67.36% and 55.53% of boys and girls respectively achieved mastery level.

#### **4.3.0      Section III:      Learning Inputs:**

The picture presented by the result of assessment of class IV children of primary schools in Mizoram will become more meaningful when supported by analysis of various learning inputs. To find out whether course structures or objectives, textbooks, facilities of schools and teachers' qualifications are in a position to promote skills or competencies expected in MLL, an attempt has been made in this section to present the situation through brief analysis of the inputs.

#### **4.3.1                      Course structures or objectives:**

The Mizoram Board of School Education (MBSE) revised the school curriculum and syllabi recently in the light of the National Curriculum Framework 2005 and the same have been followed with effect from 2009 session. Since the curriculum and syllabi for both the so called English Medium schools and Mizo Medium schools follow the same principle and contents within the framework of NCF 2005, no separate table of analysis is given for the two types of schools. Hence, Table 4.3.1 is a table on the analysis of the coverage of MLL competencies by MBSE course structure in Environmental studies for both English and Mizo Medium schools.

| <b>Table 4.3.1:</b>  |  |  |   |
|--|--|--|---|
| <b>Coverage of MLL competencies by MBSE course structure in EVS.</b> |  |  |   |
| SI No  | Course Sturcture<br>in EVS given by MBSE | MLL<br>sub-competency No covered by<br>the course. | Frequency<br>of MLL sub-<br>competen-<br>cies<br>covered. |
| 1  | <b>FAMILY AND FRIENDS:</b>               | 6.3.0; 8.3.3;                                      | 2   |
| 2  | <b>ANIMALS:</b>                          | Nil  | 0   |
| 3  | <b>WORK AND PLAY:</b>                    | 3.3.1;   | 1   |
| 4  | <b>FOOD:</b>                             | 3.3.2; 8.3.5;                                      | 2   |
| 5  | <b>SHELTER:</b>                          | Nil  | 0   |
| 6  | <b>WATER:</b>                            | 10.3.10, 10.3.11                                   | 2   |
| 7  | <b>TRAVELS:</b>                          | Nil  |   |
|  |  | Total no of related MLL subcomp.                   | 7   |

A cursory glance at Table 4.3.1 tells us that of the 55 number of different MLL sub-competencies, only 7 (seven) items of MLL competencies are covered by the course structure given in the syllabus which only accounts for 12.73%. In view of the fact revealed by the Table, it cannot be denied that the MBSE syllabus of Environmental Studies does not adequately relate with the MLL competencies and sub-competencies.

| <b>Table 4.3.2:</b>  |   |  |                                 |
|--|---|--|---------------------------------|
| <b>Coverage of MLL Competencies by MBSE course structure in Mathematics.</b> |   |  |                                 |
| Sl No  | Detail course structure given by the MBSE | MLL sub-competency Nos. covered by the course. | Frequency out of 48MLL subcomp. |
| 1  | <b>Geometry:</b>                          | 5.3.2;5.3.1;1.3.3;1.3.4<br>1.3.1;1.3.7;1.3.5   | 7                               |
| 2  | <b>ADDITION AND SUBTRACTION:</b>          | 2.3.1;2.3.2;2.3.4;2.3.5                        | 4                               |
| 3  | <b>MULTIPLICATION:</b>                    | 2.3.7;2.3.8;2.3.12                             | 3                               |
| 4  | <b>DIVISION:</b>                          | 2.3.10 & 11;2.3.13                             | 3                               |
| 5  | <b>MENTAL ARITHMETIC:</b>                 | Nil  | 0                               |
|  | <b>Money:</b>                             | 3.3.1  | 1                               |
|  | <b>LENGTH:</b>                            | 3.3.5;3.3.6 & 7;3.3.8                          | 4                               |
| 6  | <b>WEIGHT:</b>                            | 3.3.9;3.3.13;3.3.21;<br>3.3.19.                | 4                               |
| 7  | <b>DATA HANDLING:</b>                     | Nil  | 0                               |
| 8  | <b>PATTERNS:</b>                          | 1.3.8  | 1                               |
|  |   |  | 20                              |
|  |   |  | 56.25%                          |

Table 4.3.2 also reveals that in Mathematics, 27 items of MLL competencies are found related with the syllabus which accounts for 56.25% of MLL competency items. In other words, 43.75% of MLL competency items are not covered by the course structure of Mathematics. Mention may also be made here that the MBSE syllabus includes a good number of different items under Data Handling and Patterns which are not directly related with the MLL competencies.

| Table 4.3.3  |   |   |                                  |
|--|---|---|----------------------------------|
| Coverage of MLL competencies by MBSE course objectives in Mizo |   |   |                                  |
| Sl No  | Detail course objectives given by MBSE in Mizo  | MLL sub-competency No. covered by the course objectives | Frequency out of 19 MLL subcomp. |
| 1  | <b>Listening:</b>   |   |                                  |
|  | Understand speaking of others in an unfamiliar situation.   | 1.1;  | 1                                |
|  | Understand speeches in the absence of the speaker through radio, tape recorder, public announcements. | 1.2   | 1                                |
|  | Understand oral requests and simple instructions.   | 1.3   | 1                                |
| 2  | <b>Speaking:</b>  |   |                                  |
|  | To enable them to answer questions from others.   | 5.2   | 1                                |
|  | To enable them to narrate things and events.  | 2.2   | 1                                |
|  | To enable them to narrate what they saw and experienced   | 2.3   | 1                                |
|  | To speak with correction pronunciation and proper tone.   | 2.1   | 1                                |
| 3  | <b>Reading:</b>   |   |                                  |
|  | To enable them to read handwritings of others.  | 3.2   | 1                                |
|  | To enable them to read children's magazines.  | 3.3   | 1                                |
|  | To enable them to read short story with understanding.  | 3.3   | 0                                |
|  | To enable them to read daily news papers.   | 3.3   | 0                                |
| 3  | <b>Writings:</b>  |   |                                  |
|  | To enable them to use Capital and punctuation mark properly in writings.                              | 4.1   | 1                                |
|  | They should be able to use other punctuations likes comma, fullstop, etc.                             | 4.2   | 1                                |
|  | To enable them to write simple letters to parents and simple letter of application to the Government. | 0   | 0                                |
|  | To enable them to write properly and neatly .   | 0   | 0                                |
|  | They should be able to locate at least 10 prominent words which are wrongly used by people.           | 0   | 0                                |
| 5  | <b>Vocabulary:</b>  |   |                                  |
|  | They should be enable to master at least 1500 words in Mizo.  | 9.1   | 1                                |
|  |   |   | 12                               |



Table 4.3.3 indicates that in Mizo (language), 63.16% of MLL competency items are found covered by the course objectives given in the syllabus. At the same time, 36.84% of MLL competency items are yet out of the course structure. However, of the three subjects under study, the course objectives of Mizo subject are best related with the items of MLL competencies.

| <b>Table 4.3.4</b>   |        |        |        |
|--|--------|--------|--------|
| <b>Coverage of MLL Competencies by MBSE Course Structure/Objectives and Level of Achievement of Children</b> |        |        |        |
|  | EVS    | Maths  | Mizo   |
| Coverage of MLL Competency by MBSE scourse structure or objectives   | 13%    | 56.25% | 63%    |
| Mean Score of children   | 18.91  | 13.88  | 23.65  |
| Percentage of children achieving mastery level   | 0.25%  | 0      | 11.76% |
| Percentage of children scoring below 30% marks.  | 13.70% | 31.10% | 3.50%  |
| Percentage of Children having no correct responses   | 9.88%  | 13.14% | 2.36%  |

Table 4.3.4 reflects that coverage of MLL competency areas by MBSE course structure or objectives is found best for Mizo and the performance of children is also found best. At the same time, percentages of children scoring below 30% marks and children having 'no correct responses' are also lowest. However, the course structure of mathematics is also found best related with MLL competency areas next to Mizo subject but the performance of children in the subject is found lowest. Moreover, percentages of children scoring below 30% marks and children having 'no correct responses' are found highest. In between the two subjects, Environmental Studies falls. Therefore, it can be assumed that the extent of coverage of MLL competencies by the course structure or objectives of the

concerned textbooks partly determine or predict the performance of children in the subjects.

#### **4.3.2**                    Textbooks:

The contents of textbooks of Class III on Environmental Studies, Mathematics and Mizo prescribed by the MBSE for the year 2009 have been analyzed by following descriptive analysis for the sole purpose of examining the coverage of different areas of MLL Sub-competencies by these textbooks.

| Table 4.3.5:<br>Coverage of MLL Competency Areas by Class III Environmental Studies Textbook Prescribed by MBSE in 2009 for English Medium Schools. |  |              |           |      |             |           |        |
|---|--|--------------|-----------|------|-------------|-----------|--------|
| Sl No   | Areas of MLL Competency covered in the Achievement Test (Environmental studies)                      | Lesson N=28  |           |      | Page N= 150 |           |        |
|   |  | Lesson No    | Frequency | P.C. | Page No     | Frequency | P.C(%) |
| 1   | One's wellbeing, safety and orderly behaviour in the context of society.                             | 0.00         | 0         | 0    | 0           | 0         | 0      |
| 2   | Appreciates the need for orderly behaviour in home, school and public places.                        | 4            | 1         | 3.57 | 13&14       | 2         | 1.33   |
| 3   | Observes and interpret road symbols.   | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 4   | Observes rules of road safety  | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 5   | Aware importance of civic amenities and functions of hospital, police station, post office, etc.     | 26           | 1         | 3.57 | 139-142     | 4         | 2.67   |
| 6   | Knowing about the function of some district level functionaries, e.g. S.P, District Magistrate.,etc. | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 7   | Knowing about food and its producers.  | 11           | 1         | 3.57 | 51-55       | 5         | 3.33   |
| 8   | Identify direction on a map and understand simple signs of map.                                      | 20           | 1         | 3.57 | 105-108     | 4         | 2.67   |
| 9   | Locate own State and District in political map of India and state                                    | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 10  | Information about physical features (of Mizoram).  | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 11  | Facts about life of people in 5000 years ago in some parts of India.                                 | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 12  | Small family norms.  | 1, 2         | 2         | 7.14 | 1-9         | 9         | 6.00   |
| 13  | Difficulties faced by large families.  | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 14  | Proper care of eyes, hair, ear and teeth.  | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 15  | Characteristics and classifications of living and non-living things                                  | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 16  | Understand animals and plants.   | 5,6,7,8,9,10 | 6         | 21.4 | 19-50       | 31        | 20.67  |
| 17  | Identify on the basis of colour, texture and hardness.   | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 18  | Classify given materials according to their properties.  | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 19  | Relates occurrences of day and night to the rotation of the earth.                                   | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 20  | Relates occurrences of seasons and rotation of the earth in its orbit.                               | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 21  | Air pollution  | 0            | 0         | 0    | 0           | 0         | 0.00   |
| 22  | Water pollution  | 22           | 1         | 3.57 | 116-117     | 2         | 1.33   |
| 23  | About the sources of water.  | 23           | 1         | 3.57 | 120-124     | 5         | 3.33   |
|   |  | Total =      | 14        | 50   |             | 62        | 41.33  |

As shown in Table 4.3.5 above, the textbook of Environmental Studies prescribed by the MBSE, 2009 for English Medium schools consists of 28 lessons with 150 pages. Of the total 28 lessons, only 14 (50%) lessons are found related to one or more areas of the MLL competencies. Page-wise analysis shows that out of the 150 total pages of the textbook, only 62 (41.33%) pages cover one or more areas of MLL competencies. Of those 23 different areas of MLL competencies covered in the Competency-based Achievement Test, 15 (65.21%) areas are not covered by the concerned textbook. The following areas of MLL competency are not found in the concerned textbook at all:

1. Personal safety and orderly behavior in the context of society;
2. Road symbols;
3. Rules of road safety;
4. Knowing about some district level functionaries likes District Magistrate, Superintendent of Police, etc.
5. Knowing the location of one's own State and District in a political map of India and Mizoram.
6. Knowing about one's own State (Mizoram) geographical features;
7. Some facts about life of people in 5000 years ago in some parts of India;
8. Difficulties arising out of overcrowding and large families;
9. Proper care of eyes, hair, ears and teeth;
10. Characteristics and classifications of living and non-living things;
11. Ability to identify things on the basis of colour, texture and hardness;

- 12 Classifications of materials on the basis of their properties;
- 13 Understand the occurrences of days and nights owing to the rotation of the earth;
- 14 Understand the occurrences of seasons in a year as a result of revolution of the earth around the sun;
- 15 About air pollution.

| Table 4.3.6 :<br>Coverage of MLL Competency Areas by Class III Mathematics Textbook Prescribed by MBSE in 2009 for English Medium Schools . |   |              |            |         |  |            |        |
|---|---|--------------|------------|---------|--|------------|--------|
| Sl No   | Competency areas covered in the Achievement Test on Mathematics.  | Lesson N =12 |            |         | Page N= 176                            |            | P.C(%) |
|   |   | Lesson No    | Frequ-ency | P.C (%) | Page No.                               | Frequ-ency |        |
| 1   | Understanding numerals, Whole numbers, Mathematical signs, eg- <, >, X, /, +, = and Even & odd numbers. | 1            | 1          | 8.33    | 7-25.                                  | 19         | 11.18  |
| 2   | Understanding Ordinal numbers   | 0            | 0          | 0.00    | 0                                      | 0          | 0.00   |
| 3   | Addition.   | 2            | 1          | 8.33    | 28-39                                  | 12         | 7.06   |
| 4   | Subtraction.  | 4            | 1          | 8.33    | 68-87                                  | 20         | 11.76  |
| 5   | Multiplication.   | 3            | 1          | 8.33    | 46-61                                  | 15         | 8.82   |
| 6   | Division.   | 5            | 1          | 8.33    | 88-99, 103-114, 118,                   | 25         | 14.71  |
| 7   | Mathematical problem solutions in real life.  | 6            | 1          | 8.33    | 40-45, 62-63, 81-84, 100-102, 115-117, | 19         | 11.18  |
| 8   | Understading Fractions.   | 7            | 1          | 8.33    | 119-135                                | 17         | 10.00  |
| 9   | Geometrical shapes.   | 8            | 1          | 8.33    | 136-143                                | 8          | 4.71   |
| 10  | Unit of Length, mass and capacity.  | 9            | 1          | 8.33    | 145-148, 149-150, 152-153, 154         | 10         | 5.88   |
| 11  | Understading calendar and read clocks.  | 10           | 1          | 8.33    | 155-162                                | 8          | 4.71   |
| 12  | Unit of money.  | 11           | 1          | 8.33    | 163-171                                | 9          | 5.29   |
|   | Total =   |              | 11         | 91.67%  |  | 162        | 95.29% |

A critical analysis of Table 4.3.6 also depicts that Class III Mathematic textbook of English Medium Schools consists of 12 lessons with a total of 176 pages. Of these 12 lessons, 11 (91.67%) lessons are found adequately related to the different areas of MLL competency covered in the test. Of the total 176 pages of the said textbook, 162 (95.29%) pages are

related with those areas of MLL competency covered in the test. However, of these pages, not even a single page do not relates to the concept of ordinal numbers. Next to this, only 0.59% of the pages relates to the units of capacity and the concept of even and odd number respectively. Of the total 176 pages of the textbook, 41.71% of pages relate to the concept of understanding of division; 11.76% relates to the concept of subtraction; 11.18% to the understanding of numeral and whole numbers, and also mathematical problem solution in real life situations; 10% of pages also relate to the concept of fractions. Apart from these, 4.71% of pages relate to clock and calendar reading and understanding the different geometrical shapes respectively. Therefore, it can be assumed that except the concept of ordinal numbers, most of the different areas of MLL competency in Mathematics are, more or less, found covered by the concerned textbook.

| Table 4.3.7 :<br>Coverage of MLL Competency Areas by Class III Environmental Studies Textbook Prescribed by MBSE in 2009 of Mizo Medium Schools. |   |               |            |          |             |            |        |
|--|---|---------------|------------|----------|-------------|------------|--------|
| Sl No  | Areas of MLL Competency covered in the Achievement Test (Environmental studies)   | Lesson N= 27  |            |          | Page N= 154 |            |        |
|  |   | Lesson No     | Freque-ncy | P.C. (%) | Page No.    | Freque-ncy | P.C(%) |
| 1  | One's wellbeing, safety and orderly behaviour in the context of society.  | 0             | 0          | 0.00     | 0           | 0          | 0      |
| 2  | Appreciates the need for orderly behaviour in home, school and public places; small Family norms;                       | 1,2,3         | 3          | 11.11    | 1-16        | 16         | 10.39  |
| 3  | Observes and interpret road symbols.  | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 4  | Observes rules of road safety.  | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 5  | Aware importance of civic amenities and functions of hospital, police station, post office, etc.                        | 23            | 1          | 3.70     | 127-131     | 5          | 3.25   |
| 6  | Knowing about the function of some district level functionaries, e.g. S.P, District Magistrate., etc.)                  | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 7  | Information about people at various works and their products and identify food and its producers.                       | 10            | 1          | 3.70     | 53-58       | 6          | 3.90   |
| 8  | Identify direction on a map and understand simple signs of map.   | 18            | 1          | 3.70     | 94-102      | 4          | 2.60   |
| 9  | Locate own State and District in political map of India and state and Information about physical features (of Mizoram). | 27            | 1          | 3.70     | 150-153     | 4          | 2.60   |
| 10   | Facts about life of people in 5000 years ago in some parts of India.  | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 11   | Difficulties faced by large families.   | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 12   | Proper care of eyes, hair, ear and teeth.   | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 13   | Characteristics and classifications of living and non-living things.  | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 14   | Understand animals and plants.  | 4,5,6, 7,8,9. | 6          | 22.22    | 17-52       | 36         | 23.38  |
| 15   | Identify on the basis of colour, texture and hardness.  | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 16   | Classify given materials according to their properties.   | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 17   | Relates occurrences of day and night to the rotation of the earth.  | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 18   | Relates occurrences of seasons and rotation of the earth in its orbit.  | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 19   | Air pollution   | 0             | 0          | 0.00     | 0           | 0          | 0.00   |
| 20   | Water Pollution and sources of water.   | 19            | 1          | 3.70     | 103-124     | 6          | 3.90   |
| Total =  |   | 14            | 14         | 51.85%   |             | 77         | 50%    |

Table 4.3.7 reveals the lesson and page wise coverage of MLL competency areas by class III textbook on Environmental Studies for Mizo Medium schools. Of the total 27 lessons and 154 pages, 14 (51.85%) lessons and 77 (50%) pages are found to have different areas of MLL competency included in the Achievement Test. However, it may be noted that out of the 20 different areas of MLL competency covered by the Achievement test, 13(65%) areas are found having no relation to the concerned textbook. Thus, the coverage of the textbook relating to the MLL competency is found unsatisfactory and inadequate since more than half of the different areas of MLL competency are left out by the textbook. The following areas of MLL competency are found missing in the concerned textbook.

1. Personal safety and orderly behavior in the context of society;
2. Road symbols;
3. Rules of road safety;
4. Knowing about some District level functionaries like District Magistrate, Superintendent of Police, etc.
5. Some facts about life of people in 5000 years ago in some parts of India;
6. Difficulties arising out of overcrowding and large families;
7. Proper care of eyes, hair, ears and teeth;
8. Characteristics and classifications of living and non-living things;
9. Ability to identify things on the basis of colour, texture and hardness;
10. Classifications of materials on the basis of their properties;



11. Understand the occurrences of days and nights owing to the rotation of the earth;
12. Understand the occurrences of seasons in a year as a result of revolution of the earth around the sun;
13. About air pollution.

**Table 4.3.8:**  
**Coverage of MLL Competency Areas by Class III Mathematics Textbook prescribed by MBSE in 2009 for Mizo Medium Schools .**

| Sl No | Competency areas covered in the Achievement Test on Mathematics. | Lessons<br>N=11 |           |         | Page<br>N=102 |           |         |
|-------|--|-----------------|-----------|---------|---------------|-----------|---------|
|       |  | Lesson No       | Frequency | P.C (%) | No.           | Frequency | P.C (%) |
| 1     | Understanding numerals, Whole numbers and Numerals.              | 1               | 1         | 9.09    | 1-21          | 21        | 20.59   |
| 2     | Mathematical signs, eg- <, >, X, /, -, +, =                      |                 |           |         |               |           |         |
| 3     | Understanding Even & odd numbers.                                |                 |           |         |               |           |         |
| 4     | Understanding Ordinal numbers                                    | 0               | 0         |         | 0             | 0         | 0.00    |
| 5     | Addition.  | 3,4,5,<br>6 & 7 | 5         | 45.45   | 25 - 74       | 50        | 49.02   |
| 6     | Subtraction.   |                 |           |         |               |           |         |
| 7     | Multiplication.  |                 |           |         |               |           |         |
| 8     | Division.  |                 |           |         |               |           |         |
| 9     | Unit of money.   |                 |           |         |               |           |         |
| 10    | Unit of Length.  |                 |           |         |               |           |         |
| 11    | Unit of mass.  |                 |           |         |               |           |         |
| 12    | Unit of capacity.  |                 |           |         |               |           |         |
| 13    | Understanding calendar and read clocks.                          | 0               | 0         | 0       | 0             | 0         | 0.00    |
| 14    | Mathematical problem solutions in real life.                     |                 |           |         |               |           |         |
| 15    | Understanding Fractions.   | 0               | 0         | 0       | 0             | 0         | 0.00    |
| 16    | Geometrical shapes.  | 8               | 1         | 9.09    | 75-83         | 9         | 8.82    |
|       | Total =  | 7               | 7         | 63.63%  | 80            | 80        | 78.43%  |

Table 4.3.8 shows the lesson and page wise coverage of MLL competency areas by class III Mathematic textbook for Mizo Medium schools. Of the total 10 lessons and 102 pages of the textbook, no lesson or page relates to the concept of ordinal numbers as in the case of the textbook of

English Medium schools. The concept of fraction also does not find any place in the textbook. Of the total 102 pages of the textbook, 80(78.43%) pages relate to the different areas of MLL competency in Mathematics; 20.59% of pages are also related to the concept of numerals, whole numbers and mathematical signs and symbols; 8.82% pages relate to the understanding of different geometrical shapes. As a whole, therefore, it can be assumed that the different areas of MLL competency other than the concept of ordinal numbers and fractions covered in the Achievement test of Mathematics are, more or less, found covered by the concerned textbook meant for the Mizo Medium Schools. Of those 10 lessons, 3 (three) lessons are wholly unrelated to the areas of MLL competency.

Comparing the page layout and print quality between the Class III Mathematics textbook of English Medium schools and Mizo Medium Schools, the textbook of the Mizo Medium schools is found inferior to the textbook of the English Medium Schools. The textbook of Mizo Medium school on Mathematics is developed and published by the MBSE, printed by Tushar Publications, New Delhi and the printed price is Rs 25.40 whereas the English Medium school textbook of Mathematics is published by the Oxford University Press, New Delhi, printed by Tara Arts Printers (P) Ltd., Noida, and the printed price is Rs 82.

| Table 4.3.9:<br>Coverage of MLL Sub-competency Areas by Class III Mizo Textbook Prescribed by MBSE in 2009<br>for both English and Mizo Medium schools. |  |                   |                |        |                    |                |        |
|---|--|-------------------|----------------|--------|--------------------|----------------|--------|
| Sl No   | Areas of MLL sub-competency in Environmental Studies of Class III.               | Lessons<br>N = 19 |                |        | Pages<br>N = 77    |                |        |
|   |  | Lessons No.       | Fre-<br>quency | (%)    | Page No            | Fre-<br>quency | (%)    |
| 1   | Listen with understanding to narrations, descriptions, word-play and riddles.    | 4,7,16            | 3              | 15.79  | 13-15,26-29, 67-70 | 11             | 14.29  |
| 2   | Understand conversation and dialogue in unfamiliar situations.                   | 13                | 1              | 5.26   | 53-57              | 5              | 6.49   |
| 3   | Understand oral instructions for playing games, carrying out simple activities.  | 5,6               | 2              | 10.53  | 16-21, 22-25.      | 10             | 12.99  |
| 4   | Speak with correct pronunciation.  | 1                 | 1              | 5.26   | 1-4                | 4              | 5.19   |
| 5   | Narrate simple known stories with proper modulation and action.                  | 2                 | 1              | 5.26   | 5-8                | 4              | 5.19   |
| 6   | Describe familiar things and objects.  | 14,18             | 2              | 10.53  | 58-62,72-75        | 9              | 11.69  |
| 7   | Ask more complex questions.  | 11                | 1              | 5.26   | 44-48              | 5              | 6.49   |
| 8   | Read road signs, hoardings and simple notices (as on a notice board).            | 13                | 0              | 0.00   | 0                  | 0              | 0.00   |
| 9   | Read handwriting of other children.  | 0                 | 0              | 0.00   | 0                  | 0              | 0.00   |
| 10  | Read simple story books and other children's books.                              | 8                 | 1              | 5.26   | 30-34              | 5              | 6.49   |
| 11  | Take dictations of correct shape, sequence, spacing of letters and words.        | 15                | 1              | 5.26   | 63-66              | 4              | 5.19   |
| 12  | Take dictation with unknown words.   | 0                 | 0              | 0.00   | 0                  | 0              | 0.00   |
| 13  | Write simple guided composition.   | 9,12,             | 2              | 10.53  | 35-38,49-52        | 8              | 10.39  |
| 14  | Locate main ideas in a spoken or written text.                                   | 17,               | 1              | 5.26   | 71                 | 1              | 1.30   |
| 15  | After listening or reading a text, be able to answer questions of 'why'.         | 19                | 1              | 5.26   | 76-77              | 2              | 2.60   |
| 16  | Become aware of meaning relationship between words.                              | 3,10,             | 2              | 10.53  | 9-12,39-43         | 9              | 11.69  |
| 17  | Be able to use Children's Illustrated Dictionary where available.                | 0                 | 0              | 0.00   | 0                  | 0              | 0.00   |
| 18  | Take turn while speaking in group.   | 0                 | 0              | 0.00   | 0                  | 0              | 0.00   |
| 19  | Be able to acquire reading comprehension vocabulary of approximately 3000 words. | 0                 | 0              | 0.00   | 0                  | 0              | 0.00   |
|   |  | 19                | 19             | 100.00 | 77                 | 77             | 100.00 |

Table 4.3.9 above is the result of data analysis in respect of textbook of Class III on Mizo (Language) for both English Medium and Mizo Medium schools prescribed by the MBSE in the year 2009. English Medium and Mizo Medium schools use the same textbook for this particular subject.

Of the total 19 lessons and 77 pages of the textbook in Mizo for Class III, 19 (100%) lessons and 77 (100%) of pages are found, more or less, related to one or more areas of MLL competency covered in the Achievement test. Amongst those different areas of MLL competency covered in the test, use of dictionary as self study and skill of constructing questions out of reading a written short-story do not find even a single related page in the textbook. Nevertheless, it can be assumed that the textbook is related to the different areas of MLL competency since all the lessons and pages are found related, more or less, to the different areas of MLL competency.

**Table 4.3.10 :**  
**A Summary Table of Content Analysis of Textbooks of Class III for English Medium schools.**

| EVS                              |   |   | Mathematics                     |   |   | Mizo                            |   |  |
|----------------------------------|---|---|---------------------------------|---|---|---------------------------------|---|--|
| No of MLL Sub-competency areas . | No of Lessons covering one or more areas of MLL Sub-competency by the textbook . (N=28) | No of pages covering one or more areas of MLL Sub-competency by the textbook . (N= 150) | No of MLL Sub-competency areas. | No of Lessons covering one or more areas of MLL Sub-competency by the textbook . (N=12) | No of pages covering one or more areas of MLL Sub-competency by the textbook . (N= 176) | No of MLL Sub-competency areas. | No of Lesson covering one or more areas of MLL competency. (N=19) | No of pages covering one or more areas of MLL competency. (N=77) |
| 55                               | 14 (50%)  | 62 (41.33%)   | 46                              | 11 (91.67%)   | 162 (95.29%)  | 19                              | 19 (100%)   | 77 (100%)  |

A summary Table 4.3.10 above shows that 14 (50%) out of 28 lessons in EVS, 11 (91.67%) out of 12 lessons in Mathematics and 19 (100%) out of 19 lessons in Mizo are related to one or more areas or sub-areas of MLL competency for Class III in respect of English Medium schools.

| Table 4.3.11 :   |  |  |                                 |  |  |  |  |   |
|--|--|--|---------------------------------|--|--|--|--|---|
| A Summary Table of Content Analysis of Textbooks of Class III for Mizo Medium schools. |  |  |                                 |  |  |  |  |   |
| EVS  |  |  | Mathematics                     |  |  | Mizo                                       |  |   |
| No of MLL Sub-competency areas.  | No of Lessons covering one or more areas of MLL Sub-competency by the textbook .<br>(N=27) | No of pages covering one or more areas of MLL Sub-competency by the textbook .<br>(N= 154) | No of MLL Sub-competency areas. | No of Lessons covering one or more areas of MLL Sub-competency by the textbook .<br>(N=11) | No of pages covering one or more areas of MLL Sub-competency by the textbook .<br>(N=102)<br>(%) | No of MLL Sub-competency areas.<br>(N= 19) | No of Lesson covering one or more areas of MLL competency.<br>(N=19) | No of pages covering one or more areas of MLL competency.<br>(N=77) |
| 55   | 14<br>(51.85%)   | 77<br>(50%)  | 46                              | 7<br>(63.64%)  | 80<br>(78.43%)   | 19   | 19<br>(100%)   | 77<br>(100%)  |

A summary Table 4.3.11 above shows that 14 (51.85%) out of 27 lessons, 7 (63.63%) out of 11 lessons and 19 (100%) out of 19 lessons are related to one or more areas/sub-areas of MLL competency for class III in Environmental Studies, Mathematics and Mizo respectively for Mizo Medium schools

Therefore, we can conclude that amongst the three subjects, Environmental Studies textbook for Class III of Mizo Medium schools is found to have covered the least number of MLL competency areas which is followed by textbook of Mathematics. Textbook of Mizo is found to have best covered the different areas of MLL competency.

| <b>Table 4.3.12</b>   |        |        |        |
|---|--------|--------|--------|
| <b>Coverage of MLL Competencies by Textbooks and Level of Achievement of Children</b> |        |        |        |
|   | EVS    | Maths  | Mizo   |
| Total number of Lessons in textbooks ( Mizo & English medium combined)                | 105    | 23     | 38     |
| Coverage of MLL Competency by Textbooks in terms of Lessons                           | 28     | 18     | 28     |
| Percentage Coverage of MLL Competency by Textbooks in terms of Lessons                | 27%    | 78.26% | 74%    |
| Mean Score of children  | 18.91  | 13.88  | 23.65  |
| Percentage of children achieving mastery level  | 0.25%  | 0      | 11.76% |
| Percentage of children scoring below 30% marks.                                       | 13.70% | 31.10% | 3.50%  |
| Percentage of Children having no correct responses                                    | 9.88%  | 13.14% | 2.36%  |

| <b>Table 4.3.13</b>  |        |         |             |         |        |         |
|--|--------|---------|-------------|---------|--------|---------|
| <b>Coverage of MLL competencies by textbooks and achievement of students</b> |        |         |             |         |        |         |
|  | EVS    |         | Mathematics |         | Mizo   |         |
|  | Govt   | Private | Govt        | Private | Govt   | Private |
| Coverage of MLL Competency by textbooks in terms of Lessons                  | 55.60% | 50%     | 63.40%      | 91.67%  | 55.60% | 55.60%  |
| Mean scores of children  | 19.62  | 18.26   | 13.04       | 14.62   | 25.38  | 22.09   |
| Percentage of Children achieving mastery level.                              | 0%     | 0.47%   | 0%          | 0%      | 18.49% | 5.66%   |

From Table 4.3.12 and 4.3.13 we find that Mathematics is the subject in which the textbooks best cover MLL competency areas but the performance of children is found lowest. Next to Mathematics textbooks, textbook of Mizo is found best related with areas of MLL competency and the performance of children is found best and highest in this particular subject. Textbooks of Environmental Studies are least related with MLL competencies but children's performance and achievement are not lowest. It is evident from the analysis that the performance and achievement of children in the three subjects are found partly influenced and determined by the textbooks. In other words, the performance and achievement of children in the present

study can be said as, more or less, influenced by the coverage of MLL competencies by the concerned textbooks.

#### 4.3.3 School Facilities:

Besides contents of textbooks, facilities available in schools are, in general, considered as contributing factors for pupils' achievement. To find out whether this assumption is true in the present case, learning and physical facilities available in top-five high scoring schools and low scoring schools are compared in the following tables:

| <b>Table 4.3.14</b>  |                               |                          |                         |
|--|-------------------------------|--------------------------|-------------------------|
| <b>Learning Facilities available in High and Low Scoring Schools</b> |                               |                          |                         |
| SI No  | Learning facilities available | High Scoring Schools N=5 | Low Scoring Schools N=5 |
| 1  | Map                           | 4                        | 3                       |
| 2  | globe                         | 4                        | 2                       |
| 3  | Charts                        | 4                        | 4                       |
| 4  | play materials                | 4                        | 4                       |
| 5  | Games equipment               | 3                        | 3                       |
| 6  | Primary science kit           | 2                        | 1                       |
| 7  | Mini tool kit                 | 2                        | 1                       |
| 8  | Mathematics kit               | 4                        | 1                       |
| 9  | Dictionaries                  | 4                        | 5                       |
| 10   | Encyclopaedia                 | 3                        | 1                       |
| 11   | books/journals                | 2                        | 1                       |
| 12   | school Bell                   | 5                        | 5                       |
| 13   | Musical instrument            | 4                        | 0                       |
|  | <b>Total =</b>                | 45                       | 31                      |
|  | <b>Average per school</b>     | 9                        | 6.2                     |
|  | <b>Percentage (%)</b>         | 69.23                    | 47.69                   |

Table 4.3.14 reflects that Five High scoring schools are much in a better position in terms of 13 identified learning facilities than the five Low Scoring Schools.

| <b>Table 4.3.15</b>  |                                      |                          |                         |
|--|--------------------------------------|--------------------------|-------------------------|
| <b>Physical Facilities available in High and Low Scoring Schools</b> |                                      |                          |                         |
| Sl No  | Physical facilities available        | High Scoring Schools N=5 | Low Scoring Schools N=5 |
| 1  | Benches& Desks                       | 5                        | 5                       |
| 2  | Chairs for teachers                  | 5                        | 5                       |
| 3  | Tables for teachers                  | 5                        | 5                       |
| 4  | Blackboard                           | 5                        | 5                       |
| 5  | Notice board                         | 5                        | 1                       |
| 6  | Chalk & Duster                       | 5                        | 5                       |
| 7  | Water pitcher& glasses               | 4                        | 4                       |
| 8  | Dustbin                              | 5                        | 5                       |
| 9  | Safe drinking water                  | 5                        | 5                       |
| 10   | Toilet facilities                    | 5                        | 5                       |
| 11   | Separate toilets for girls           | 5                        | 3                       |
| 12   | Electric connection                  | 4                        | 3                       |
| 13   | Televisions                          | 2                        | 0                       |
| 14   | Computer                             | 3                        | 0                       |
| 15   | Playground                           | 2                        | 1                       |
| 16   | Annual medical check up for children | 3                        | 1                       |
| 17   | Immunization                         | 4                        | 0                       |
| 18   | First aid kit                        | 3                        | 2                       |
|  | <b>Total =</b>                       | 75                       | 55                      |
|  | <b>Average per school</b>            | 15                       | 11                      |
|  | <b>Percentage (%)</b>                | 83.33                    | 61.11                   |

Table 4.3.15 also depicts that Five High scoring schools are much in a better position in terms of 18 identified physical facilities than Low Scoring schools. Thus, it can be assumed that learning facilities and physical facilities significantly influence the performance of children.



#### 4.3.4 Teachers' Qualifications:

The facts that quality of education depends on the quality of teachers has been widely recognised. It will be interesting to know whether high scoring schools have better teachers in terms of both educational and professional qualifications than low scoring schools. The following tables will reveal the fact.

| <b>Table 4.3.16</b>   |                                  |        |                                 |        |
|---|----------------------------------|--------|---------------------------------|--------|
| <b>Educational Qualification of Teachers of High Scoring and Low Scoring Schools.</b> |                                  |        |                                 |        |
| Educational qualification of teachers   | Teachers of High Scoring Schools |        | Teachers of Low Scoring Schools |        |
|   | N =47                            |        | N = 46                          |        |
|   | N                                | (%)    | N                               | (%)    |
| Non-Matriculate   | 2                                | 4.26   | 9                               | 19.57  |
| HSLC  | 14                               | 29.79  | 30                              | 65.22  |
| HSSLC   | 10                               | 21.28  | 2                               | 4.35   |
| BA  | 21                               | 44.68  | 5                               | 10.87  |
| MA  | 0                                | 0.00   | 0                               | 0.00   |
| Total =   | 47                               | 100.00 | 46                              | 100.00 |

| <b>Table 4.3.17</b>  |                                   |       |                                  |     |
|--|-----------------------------------|-------|----------------------------------|-----|
| <b>Professional Qualification of Teachers of High Scoring and Low Scoring Schools.</b> |                                   |       |                                  |     |
| Professional qualification   | Teachers of High Scoring Schools. |       | Teachers of Low Scoring Schools. |     |
|  | N=47                              |       | N=46                             |     |
|  | N                                 | (%)   | N                                | (%) |
| D.T.ED   | 23                                | 48.94 | 0                                | 0   |
| B.ED   | 3                                 | 6.38  | 0                                | 0   |
| Total =  | 26                                | 55.32 | 0                                | 0   |

Table 4.3.16 and 4.3.17 shows that low scoring schools have more number of matriculate and non-matriculate teachers whereas high

scoring schools have more teachers with HSSLC and BA degree. In terms of professional qualification of teachers, the position of low scoring schools is very bad that no teachers has any professional qualification, whereas high scoring schools have 55.32% teachers equipped with D.T.Ed and B.Ed. Therefore, it can be assumed that teachers' educational qualification and professional qualification greatly influence learning achievement of children so far as the present study is concerned.

## CHAPTER - V

### MAJOR FINDINGS AND CONCLUSIONS, DISCUSSIONS, RECOMMENDATIONS AND SUGGESTIONS.

#### Major Findings:

##### Section I

#### 5.1.0 Performance and Level of Achievement of Class IV Children in EVS, Mathematics and Mizo.

#### 5.1.1 Overall performance and level of achievement:

1. The overall mean score of children in Environmental Studies, Mathematics and Mizo was 18.81 out of the total mark of 40 in each subject. The mean score so derived was equivalent to the average percentage score of 47.02 only. Thus, the mean score of children in the test fell below 50% of the total mark which was far from satisfactory and also from the desired mastery level i.e 80% and above. The null hypothesis No 1 which states: *"Class IV children of primary schools in Mizoram do not achieve mastery level of MLL for Class III in Environmental Studies (EVS), Mathematics and Language (Mizo)"* is accepted when the performance of Class IV children in the three subjects are combined or taken together.

2. Of the three subjects, performance and level of achievement was found highest in Mizo and lowest in Mathematics. In Environmental Studies and Mizo, 0.25% and 11.76% of children respectively achieved mastery level of learning whereas no child (0%) could achieve this level in

Mathematics. When the performance and level of achievement of children in the three subjects are analysed separately the null hypothesis No 1 is partly rejected and partly accepted.

3. Significant correlation at .05 levels (Pearson two-tailed test) was found between learning achievement in Mizo and Environmental studies. However, no such significant correlation was found between Mizo and Mathematics or Mathematics and EVS, and vice versa..

#### 5.1.2 District-wise performance and level of achievement:

1. Children belonging to Serchhip District were found strongest in EVS followed by that of Aizawl District whereas children from Kolosib District were found weakest in the subjects.

2. In Mathematics, children of Aizawl District performed the best whereas children of Saiha District were poorest comparing with children in the rest of the seven districts.

3. In Mizo, the performance of children from Kolosib District was found highest whereas children from Lawngtlai District performed poorest.

4. In EVS, children from four districts derived the mean score less than the overall mean score of 18.91 which is equivalent to the average percentage of 47.27. In Mathematics, children of five districts got the mean score less than the overall mean score of 13.88 which is corresponding to the average percentage of 34.67. In Mizo, children only from two districts attained the mean score higher than the overall mean score of 23.65 which is also comparable to the average percentage of 59.12.

5. When the scores of children in all the three subjects are combined, the highest mean score was observed against children of Aizawl Districts and lowest mean score was also found against Lawngtlai Districts. Since significant difference of mean score was observed between Aizawl District and Lunglei District which had the second highest mean score, it was evident that children belonging to Aizawl District were significantly better than that of the rest of the 7 districts so far as the present study is concerned.

6. On the basis of overall level of achievement of all the children in all the districts, it was observed that 96% of children failed to attain mastery level. Thus, it was apparent that the overall levels of achievement of children in the tests on the three subjects were found very low and far from satisfactory.

7. In EVS, the largest group of children (35.90%) derived a scoring which fell within the mark range of 45%-59%. In Mathematics, the biggest cluster of children (48%) was found within the mark range of 30%-44%. In Mizo, the largest homogenous group of children (37.7%) were also observed within the mark range of 60%-79%. This indicated that the performance of children was higher in Mizo than that of the other two remaining subjects, i.e. EVS and Mathematics. In Mathematics, one-fourth of the children failed to achieve even 30% of the total marks.

8. As a whole, performance of children from Lawngtlai District was found lowest followed by Saiha District.

### 5.1.3 Competency-wise performance and level of achievement:

1. Amongst the 9 different areas of MLL competency identified in EVS, the level of achievement of children was lowest in the area of geography on the ground that more than half of them gave wrong responses to all the test sub-items which tested knowledge of the general physical features of Mizoram. The area of MLL competency pertaining to 'civic amenities' elicited the highest mean score of performance of children, and at the same time, the lowest percentage of 'zero correct responses' was observed. Map reading was also found to be one of the most difficult sub-items since nearly one-fifth of the children (20.54%) were unable to locate own state/district in a given political map of India/Mizoram.

2. Of the 7 different areas of MLL competency identified in Mathematics, three of them like geometry, fraction and reading calendar emerged as hard spot of learning for the children. Test items relating to geometry involves naming different geometrical shapes like cuboids, cube, triangle, rectangle, etc against which 77.35% of children scored less than 30% of the total marks and only 2.85% of children attained mastery level in this particular area. Reading calendar was also found to be most difficult for children next to geometry and only 0.12% achieved mastery level. Moreover, fraction was also another area in which most children were found very weak that more than half of them derived marks less than 30% of the total mark and only 5.94% achieved mastery level.

3. Out of the 7 different areas of MLL competency identified in Mizo, the performance was lowest on the area of pronunciation (1.43 mean score and

4.08% attainment of mastery level) indicating that this skill was least developed. Although the mean score was not too low, reading was another area which emerged as hard spot since only 0.12% attained mastery level.

## 5.2.0 **Section II - Comparison of Performance and Level of Achievement:**

### 5.2.1 School management-wise comparison.

The null hypothesis which states: "*There is no significant difference between the performance (mean scores) of Class IV children of government and private primary schools in Mizoram*" has been rejected due to the findings mentioned below:

1) The performance of children from government primary schools was found significantly better than that of children from private primary schools in Environmental Studies and Mizo whereas in Mathematics, children of private primary schools were significantly better than children of government primary schools.

2) Although the mean score of children from private primary schools was less than that of the government primary schools in EVS, no one from government schools attained mastery level whereas 0.47% of children from private schools attained mastery level.

3) Although the mean score of children of private schools was significantly higher than the mean score of children of government schools in Mathematics, no one both from government and private schools attained mastery level in this particular subject. The largest group of children both

from government and private schools secured marks which fell within the mark range of 30%-44%. In other words, even in private schools most children secured marks less than 45% of the total marks which can be taken as an indicator of a very poor performance.

4) Although the mean score of children from government schools was significantly higher than that of private schools in Mizo, only 18.49% and 5.66% of children attained the desired mastery level both from government primary schools and private primary schools respectively. The largest group of children i.e 40.89% and 34.91% both from government and private primary schools respectively fell within the mark range of 60%-79% only.

5) Of the 9 different areas of MLL competency in EVS, children from both schools i.e government and private, were found weakest against geography, population education, reading map and solar system.

6) Of the 7 different areas of MLL competency in Mathematics, the highest percentage of children with 'zero correct responses' was found against the item on fraction both in government and private primary schools. In other word, more than half of the sample children, irrespective of types of school management, wrongly responded all the test items relating to fraction which indicated that fraction was the most difficult area of MLL competencies in Mathematics for the children both in government and private primary schools.

7) Out of the 6 different areas of MLL competency in Mizo, the highest percentage of children with zero correct responses was found against



pronunciation (speaking) both in government and private primary schools. In this particular area, percentage of children with 'zero correct responses' in private primary schools was found higher than government primary schools. From the perspective of the level of achievement, the least developed area was in reading competency against which only 0.26% of children of government primary schools attained mastery level and no one from private primary schools achieved this level.

#### 5.2.2 School location-wise comparison:

The null hypothesis saying "*There is no significant difference between the performance (mean scores) of Class IV children of rural and urban primary schools in Mizoram*" has been rejected due to the following findings:

1) Children of primary schools located in urban areas were significantly better than children of primary schools located in rural areas in all the three subjects. In other words, urban schools were significantly better than that of rural schools in the test.

2) In EVS, 0.40% of children of primary schools located in urban areas attained mastery level whereas no one from schools located in rural areas attained the said level. Amongst urban school children, the largest group of them (39.76%) secured marks which fell within the mark range of 45%-59% whereas the largest group of rural school children (29.84%) was placed within the mark range of 30%-44%.

3) In Mathematics, no one from urban and rural primary school achieved mastery level. The largest group, 46.2% and 49.1% of children both in rural and urban schools respectively secured marks within the mark range of 30%-44%.

4) In Mizo, 10.2% and 12.7% of children from rural and urban primary schools respectively attained mastery level. The largest group of children i.e. 30.8% and 41.9% of children in rural and urban primary schools respectively secured marks which fell within the mark range of 60%-79%.

5) In EVS, the percentage of children from urban schools achieving mastery level is higher than that from rural schools in the areas of MLL competency like civic amenities, geography, early man, population education, personal hygiene and Environment. On the other hand, children of rural schools are better than that of urban schools in the MLL competency items such as reading map, solar system and air/water pollution.

6) In Mathematics, the percentages of children obtaining mastery level of achievement are higher among the children of urban schools in all the competency items except 'daily problem in life' and 'fraction'. These may reflect the fact that urban school children are better than rural school children in this particular subject.

7) Amongst the 6 different areas of MLL competencies in Mizo, a higher percentage level of attainment of mastery was observed among urban primary schools in all the 4 areas like listening, writings, comprehension, vocabulary. The percentage level of attainment of mastery in rural schools

was slightly higher than urban schools in the remaining 2 different areas like 'pronunciation' and 'reading'.

### 5.2.3 Gender-wise comparison.

The null hypothesis stating "*There is no significant difference between the performance (mean scores) of boys and girls of Class IV in primary schools in Mizoram*" has been partly rejected and partly accepted based on the following findings:

1) Girls were significantly better than boys in Mathematics whereas boys were significantly better than girls in Mizo. However, no such significant difference was found between boys and girls in EVS.

2) In EVS, 0.26% of boys and 0.2% of girls only attained mastery level and 14.36% of boys and 13% of girls secured mark less than 30% of the total mark. The largest groups 32.9% boys and 39% girls scored within the mark range of 45%-59%. Out of the 9 different areas in, the percentage level of attainment of mastery amongst boys was higher than girls in the 6 areas such as civic geography, early man, personal hygiene, environment, solar system and air/water pollution. Moreover, the percentage level of 'zero correct responses' of boys was also higher than girls in the 6 different areas of MLL competency like civic amenities, early man, population, personal hygiene, environment and solar system. This meant that there were more boys who committed 'zero correct responses' to questions.

3) In Mathematics, no one from both the two sexes attained mastery level and 32.11% of boys and 30% of girls secured marks less than

30% of the total mark. The largest groups 50.91% boys and 45% girls derived marks which fell within the mark range of 30%-44%. The percentage level of attainment of mastery amongst girls was higher than boys in all the 7 different areas. Moreover, the percentage level of 'zero correct responses' against all the 7 areas of MLL competency was also lower than boys. As a whole, girls were significantly better than boys. The performance of both boys and girls was far from satisfactory since the level of achievement of mastery was found very low.

4) In Mizo, 13.32% of boys and 10% of girls only attained mastery level. 1.3% of boys and 5.4% of girls secured mark less than 30% of the total mark. The largest groups 38.12% boys and 37% of girls derived marks within the mark range of 60%-79%. Out of the 6 different areas of MLL competency in Mizo, the percentage level of attainment of mastery amongst boys was higher than girls in the 4 different areas. Moreover, the percentage level of 'zero correct responses' of girls was also higher than boys against the 4 different areas of MLL competency. In reading competency, no one from amongst boys attained mastery level whereas 0.24% of girls achieved this level. However, the overall mean score of boys was found significantly better than girls.

5.3.0            **Section III :        Learning Inputs:**

5.3.1            Course structures or objectives:

1.                Of the 55 different areas of MLL competency in EVS, only 7 (12.73%) of them were found, more or less, related with or covered by the course structure prescribed by the MBSE which was far from satisfactory from the perspective and principles of MLL.

2.                Of the 48 different areas of MLL competency in Mathematics, only 20 (56.25%) of them were found, more or less, related with or covered by the course structure prescribed by the MBSE. In other words, only half of the total number of different areas of MLL competency was found to be taken care by the course structures in Mathematics.

3.                Out of the 19 different areas of MLL competency in Mizo (language), only 12 (63.16%) areas of MLL competency were found, more or less, related with or covered by the course objectives prescribed by the MBSE.

4.                The coverage of MLL competency areas by MBSE course structure or objectives is found best for Mizo and the performance of children is also found best. At the same time, percentages of children score below 30% marks and children having 'no correct responses' are also lowest. However, the course structure of mathematics is also found best related with MLL competency areas next to Mizo subject but the performance of children in the subject is found lowest. Moreover, percentages of children scoring below 30% marks and children having 'no correct responses' are found highest. In

between the two subjects, Environmental Studies falls. Therefore, it can be assumed that the extent of coverage of MLL competencies by the course structure or objectives of the concerned textbooks partly determine or predict the performance of children in the subjects.

### 5.3.2 Textbooks:

1. Of the total 28 lessons and 150 pages of class III textbook on EVS for English Medium schools, 14 (50%) lessons and 62 (41.33%) pages were identified as related to one or more areas of MLL competency. In other words, around half of the contents of EVS textbook was helpful to children for achieving MLL competencies.

2. Of the total 12 lessons and 176 pages of class III textbook on Mathematics for English Medium schools, 11(91.67%) lessons and 162 (95.29%) pages were identified as related to one or more areas of MLL competency.

3. Of the total 27 lessons and 154 pages of class III textbook on EVS for Mizo Medium schools, 14 (55.60%) lessons and 77 (50%) pages were identified as related to one or more areas of MLL competency. In other words, approximately half of the EVS textbook meant for Mizo medium schools was helpful to children for achieving MLL competencies.

4. Of the total 10 lessons and 102 pages of class III textbook on Mathematics for Mizo Medium schools, 7(63.64%) lessons and 80 (78.43%) pages were identified as related to one or more areas of MLL competency. In

other words, approximately half of the Mathematics textbook of Mizo medium schools was helpful to children for achieving MLL competencies.

5. Of the total 19 lessons and 77 pages of the textbook of Mizo for Class III of the Mizo and English Medium schools, 14 (73.68%) lessons and 77 (100%) pages were identified as related to one or more areas of MLL competencies. In other words, Mizo textbook was found best related with the MLL competencies and most helpful to the students.

6. Approximately half of the textbooks of EVS and Mathematics for Mizo and English medium schools was found related with the MLL competencies whereas performance of children was also found to be lowest in Mathematics followed by EVS. Mizo textbook of Class III for both the Mizo medium and English medium school was found best related with the concerned MLL competencies and thus performance of children was also found highest in this particular subject. Therefore, the extent of coverage of MLL competencies by the textbooks appears to have contributed positively to the performance of children to a great extent.

### 5.3.3 Schools Facilities :

1. Five High scoring schools are much in a better position in terms of 13 identified learning facilities than the five Low Scoring Schools.

2. Five High scoring schools are much in a better position in terms of 18 identified physical facilities than Low Scoring schools. Therefore, learning facilities and physical facilities appears to have significantly influenced the performance of children

#### 5.3.4 Teachers qualifications:

1. Low scoring schools have more number of matriculate and non-matriculate teachers whereas high scoring schools have more teachers with HSSLC and BA degree.
2. In terms of professional qualification of teachers, the position of low scoring schools is very bad that no teachers has any professional qualification, whereas high scoring schools have 55.32% teachers equipped with D.T.Ed and B.Ed. Therefore, teachers' educational qualification and professional qualification appears to have greatly contributed to the learning achievement of children so far as the present study is concerned.

#### 5.4.0 **Discussion of Findings:**

##### 5.4.1 Discussions of findings on performance and level of achievement in Environmental Studies, Mathematics and Mizo:

The overall performance of class IV children was very low and far from satisfactory as the mean score was only 18.81 which was equivalent to 47.025% of the total marks. The mean scores were 23.65 in Mizo, 18.91 in EVS and 13.88 in Mathematics. This indicates that the performance of pupils in the tests was found highest in Mizo followed by EVS and lowest in Mathematics. On the basis of attainment of mastery level, the achievement was highest in Mizo followed by EVS and lowest in Mathematics. Mastery level was only attained by only 4% of pupils as a whole whereas 11.76% of pupils in Mizo, 0.25% in EVS and no one (0%) in Mathematics attained



mastery level. Sharma (1997) reported in his study that 2.1% of pupils achieved mastery level in Hindi (Language), 0.6% in EVS and 5.8% in Arithmetic. In the study of Sharma (1997), the performance of pupils was found highest in Arithmetic followed by Hindi (Language) and lowest in EVS whereas in the present study, the highest performance was found in Mizo (Language) followed by EVS and lowest in Mathematics. The study of Jacob (1997) also reported that Class IV students of primary schools showed highest percentage of mean score in Language (10.8) followed by EVS (10.1) and lowest in Mathematics (5.6). Thus, the finding of Jacob and the present study are complementary to each other in terms of performance mean scores in the three subjects. Mathematics is the most difficult subject for Mizo pupils right from elementary schools which needs to be addressed properly.

Why Mathematics has become the hardest subject right from the primary schools especially in Mizoram is a matter of concern. According to the report of the study conducted by Rangapapa (1993), higher the level of reading ability higher the level of achievement in Mathematics. Reading ability, numerical ability, problem solving ability, arithmetic reasoning ability, verbal reasoning ability and comprehension ability are directly related to higher performance in Mathematics. Nagalakshmi (1996) reported that socio-economic status (SES) facilitated problem solving ability. A Baseline Study (NCERT,2006) revealed that performance of urban Mizo students was significantly better than their counterpart in rural areas in Language only whereas the present study revealed that in all the three subjects, urban primary children were significantly better than their

counterpart in rural areas. Urban areas have relative proportions of high SES families. However, Bhattacharya (1991) reported that the factors of school ecology (learning environment in the Basic Education terminology) had a greater impact on pupil achievements than those related to home ecology (environment). The present study also found that urban primary schools were found to be in a much better position than rural primary schools in terms of learning facilities. Conducive home ecology may not easily be created and controlled but the school ecology is, in fact, in the hand of the government to a great extent. Hence, proper planning and attention needs to be given so that rural primary schools are provided and equipped with adequate learning facilities. Development of reading ability at the early age of children may be given due emphasis as reading ability at school in early years has been shown to be a good predictor of later achievement (MacGilchrist, 1997; Mortimore, 1995; Sammon, et al 1995).

George (2003) concluded his report that mathematical backwardness was due to neglect of mathematical basics during the early years. Positive attitude should be developed towards mathematics. Teachers should present mathematics in an interesting manner. The absence of methodological approach was one of the factors responsible for low achievement in Mathematics (Kothari, 1977). Teaching mathematics was more effective when it was done with the help of teachers handbook (Nalage, 1997). There is a need to develop love and positive attitude towards Mathematics (Basavayya, 1995) which needs to be taken into consideration right from the reception class (pre-school class). Hence, a sound philosophy

and psychological approach must be applied right from the beginning throughout the elementary stage in an earnest manner.

Sharma (1997) found in his study that the performance was lowest on the area of map-reading in EVS, writing skill was the least developed in language, 'fraction' is the hardest area in Mathematics. The present study also reported that lowest performance of pupils was on the area of map reading in EVS; the least developed skills were on pronunciation and reading in Mizo; the hardest areas in Mathematics were geometry, fraction and reading calendar.

The study of Pradhan (1996) reflected that the poor performance might be due to the following:

- i) Promotion of students to next higher classes/Unit was not based on the mastery of learning competencies of preceding classes/units.
- ii) Primary school teachers were not aware of the competencies implicit in the content they were dealing with and instruction either.
- iii) Poor-socio economic background of children.
- iv) Illiteracy of parents.
- v) Norm reference testing strategy, etc.

Most of the reasons for poor performance of children listed above appear to be relevant for the state of Mizoram also and thus need to be taken care of.

#### 5.4.2 Discussion of findings on comparison of achievement on the basis of school types;

The present study covers two types of schools namely, Government Primary schools and Private Primary schools. The Government Primary schools are run and governed by the state Government and Private Primary schools are run and managed by individuals or purely private enterprises. Private Primary schools are generally known as English Medium schools since English is used as the medium of instruction whereas Government Primary schools are also known as 'Mizo Medium schools' as the medium of instruction is mainly 'Mizo'. Most high and medium SES families prefer to send their children in the so-called English Medium schools since English has become more and more the demand of the day whereas low SES families send their wards to the Government Primary schools where no fees are charged and free textbooks are provided.

Most national assessment data in EFA Report (2000) showed that, on average, pupils in private schools tended to perform at a higher level than those in public schools. Explanations usually include the fact that parents who send their children to private schools tend to have higher income and educational backgrounds, and that private schools often have better physical and human resources. The MLA study (1999) in Jordan also found that private school pupils outperformed those in schools run by the

Ministry of Education in all four subjects measured. Kumudhavalli's (1999) study also reported that parents of children studying in English medium schools had better education and income than the other group. The same study also reported that English medium children performed better in Mathematics and Gujarati medium children scored higher in EVS. Partly contrary to this particular finding, the present study found that children of Government Primary schools (Mizo medium) significantly performed better than children of Private Primary schools (English medium) in EVS and Mizo (Language) but in Mathematics, children of Private Primary schools were significantly better than their counterpart in Government Primary schools.

So far as the reviewed related literatures in the present study are concerned, majority of the studies prominently reported that Socio-Economic Status (SES) in terms of income, parental education and home environment significantly influenced learning achievement of pupils. By taking this report into consideration, Private Primary schools in Mizoram ought to have outperformed the Govt. Primary schools in learning achievement of pupils. However, the present study reflected that children of Private Primary schools were significantly better than that of Government Primary schools only in Mathematics but worst in EVS and Mizo (Language). Therefore, children of Government Primary schools were better than children of privately run Primary schools. In other words, of the three subjects, children of Government Primary schools significantly performed better than their counterpart in Private Primary schools in the two subjects. This is in contrast with the findings of related research studies reviewed. The

reasons may perhaps be emanated from within the school environment rather than home environment.

#### 5.4.3 Discussion of findings on comparison of achievement on the basis of location;

A Baseline Study (NCERT 2006) reported that urban students performed significantly better than rural students in EVS and Language but no such significant difference was found in Mathematics. EFA Report (2000) also revealed that urban areas performed, on average, better than their counterparts in rural schools. The reasons generally given include the fact that big cities and, to a lesser extent, mid-sized urban areas have relatively large proportions of high SES families. Schools in such areas often have been better and are in a favorable position to attract good teachers. Hence, the performance of children in urban schools is also supposed to be better than their counterparts in rural schools. The present study also found that children in urban Primary schools were significantly better than their counterparts in rural Primary schools in all the three subjects measured. In EVS, 0.40% of children of primary schools located in urban areas attained mastery level whereas no one from schools located in rural areas attained mastery level. In Mathematics, no one from urban and rural primary school achieved mastery level. However, the mean score (13.99) of children of urban Primary schools was significantly higher than that of rural Primary school children. In Mizo, 10.2% and 12.7% of children from rural and urban primary schools respectively attained mastery level.

5.4.4. Discussion of findings on comparison of achievement on the basis of gender;

Sharma's (1994) study showed that there was no significant difference in the performance of boys and girls in Hindi (Language) whereas boys performed significantly better than girls in EVS and Mathematics (Arithmetic) test. Buch and Sudam (1990) however, reported in their study that boys and girls did not differ in their achievement in Language and Mathematics. In Jacob's (1997) study, gender was found to be correlated with achievement of students and the girl students had shown lower score in Mathematics than boys. Khaton (1988) in his study reported no significant difference in the aptitude for mathematics amongst boys and girls but significant difference in achievement. High SES group boys and girls showed higher scores than low SES group children (Kanwar, 1989). The Monitoring of Learning Achievement programme undertaken by UNESCO-UNICEF in different African countries also confirmed that the variation in ability and achievement between sexes was small when compared with the variation within groups of the same sex. The study undertaken by PASEC (1991) (Programme For the Analysis of Educational System of the confenem countries) also revealed that in Grade 2 (Class II) boys performed at a higher rate in Mathematics and girls in Language, but both gaps narrowed as pupils approached the primary school exit point of Grade 5 (Class V) and the most frequently cited disparities involved three factors, i.e., socio-economic status (SES), location and types of school. However, the study conducted by Yadav (1980) reflected that at primary stage age was the most important factor, SES came next and school environment was the least important.

In the present study, there was no significance difference in the performance between boys and girls in EVS. However, girls performed significantly better than boys in Mathematics whereas boys significantly performed better than girls in Mizo (Language). In EVS, 0.26% of boys and 0.2% of girls only attained mastery level and 14.36% of boys and 13% of girls secured mark less than 30% of the total mark. In Mathematics, no one from both the two sexes attained mastery level and 32.11% of boys and 30% of girls secured marks less than 30% of the total mark. In Mizo, 13.32% of boys and 10% of girls only attained mastery level. 1.3% of boys and 5.4% of girls secured mark less than 30% of the total mark.

#### 5.4.5 Discussion of findings on Learning Inputs as contributing variables on learning achievement and performances:

The present study also briefly analyzed some inputs for learning achievement. Such variables/inputs under study are course structures/objectives, textbooks, facilities in schools and teachers' qualifications. How far these inputs influenced the learning achievement/performance in the present study may be looked into and discussed. Different studies conducted by Shah and Darji (1966), Puranik (1969), Sharma (1979), Desai (1985) and Devi (1985) reported that the conditions in schools were far from satisfactory, the methods were defective, teachings unplanned, textbooks inadequate, examinations subjective, teachers inefficient and parents non-supporting.



In terms of Lessons and pages related with MLL, EVS textbook for Mizo medium schools was better than that of English medium schools. Accordingly, the performance of children from government Mizo medium schools was significantly better than that from private English medium schools in EVS. Likewise, Mathematics textbook for English medium school was better than the textbook for Mizo medium schools. Thus, the performance of children from private English medium schools was significantly better than that of children from government Mizo medium schools in Mathematics. Mizo textbook for English and Mizo medium schools was same and equally effective. In this subject, the performance of children from government Mizo medium schools in the tests was significantly better than that of children from private English medium schools. Therefore, it can be concluded that the performances of children in the tests on all the three subjects were, more or less, influenced by the relevancy of the concerned textbooks.

In terms of teachers' educational qualification, private primary schools were in a much better position than government primary schools. However, in terms of teachers' professional or training qualification, Government primary schools were much better than private primary schools. As children from government primary schools performed better in two out of the three tests, professional qualifications of teachers appear to be contributing to the performance of children than educational qualifications of teachers. Teachers' professional qualification like B.Ed, M.Ed had a significant effect in use of teaching strategies like feedback, classroom management, expository, discussion and participative dimensions (Reddy, et

al 2001). The same study also mentioned that teachers' professional qualifications also had a significant effect on some of teacher's personality variables and these variables were adaptable, imaginative, nurturance, endurance, accepting and responsible.

Private primary schools were found to be in a much better position than government primary schools in terms of learning facilities. Although such was the case in terms of learning facilities, performance of children belonging to government primary schools was significantly better than private primary schools in EVS and Mizo whereas private primary schools were significantly better than government primary schools in Mathematics only.

The position of urban primary schools was significantly better than that of rural primary schools in term of learning facilities whereas performance of urban Primary school children was significantly higher than rural Primary school children in all the three subjects measured.

The positions of all the top-five high scoring schools were much better than that of the low scoring five primary schools in terms of teachers' educational and professional qualifications and of learning facilities.

#### **5.5.0 Recommendations and Suggestions:**

In the light of the discussions and the findings of the present study, the overall level of performance and achievement of Mizo children in elementary schools in the competency based achievement tests on Environmental Studies, Mizo and Mathematics is obviously far from

satisfactory. This indicates that children of primary schools in Mizoram had learnt things only at knowledge level but not at comprehension and application levels. In this regard, the following recommendations are made:

- 1) Care should be taken by the teachers so as to imbibe in children skills or competencies relevant to their stage of education.
- 2) Teachers should not only try to impart knowledge to the children. Rather, they should give relevant examples, practises and exercises so as to help children comprehend the idea and to enable them to apply their knowledge in other situations.
- 3) Teachers should discourage learning by rote memorization. They should rather encourage children to think, reason and do things on their own.
- 4) Teachers should carry out teaching in a practical and joyful manner by employing play-way method, activity method, heuristic method, project method, etc.
5. Promotion of students to next higher classes/Unit must be based on the mastery of learning competencies of preceding classes/units.
6. The absence of gender discrimination or disparity should continue to be encouraged.
7. Teaching should be accompanied by formative evaluation through which remedial measures may be taken up immediately to correct any inadequacies. For this, Continuous Comprehensive Evaluation (CCE)

should be adopted properly. Under C.C.E, evaluation may encompass cognitive and non-cognitive areas of learning which may include honesty, diligence, cooperative, love of labour, punctuality, cleanliness, sense of personal hygiene and sanitation, etc. Assessment must be purely qualitative judgements of children activities in various domains and assessment of the status of their health and physical development, based on observations through everyday interactions. On no account should they be made to take any form of test, oral or written upto Class II. From Class III onwards a variety of methods may be used, including oral and written tests and observation. Children should be aware that they are being assessed, but this must be seen by them as a part of teaching process and not as a fearful constant threat.

8. A state level body should be constituted to monitor quality of both government and private primary schools, and to ensure that minimum standards are met in terms of learning outcomes.

9. There should be a shift from content based testing to problem solving and competency based assessment.

10. Availability of minimum infrastructure, physical and learning facilities in primary schools should be ensured for improved teacher performance. For this purpose, Minimum Requirements of Infrastructures and Learning Facilities (MRILF) may be formulated for practical implementation for all the schools irrespective of managements. Those schools failing to comply such minimum learning infrastructure and facilities should not be allowed to continue as a recognised school.

11. Proper planning and attention needs to be given so that rural primary schools are provided and equipped with adequate learning facilities.

12. Existing provisions of Teachers Recruitment Rules should be revised and amended so that HSSLC be made the minimum qualification for teacher in primary schools. All unqualified incumbents in primary schools should be given compulsory pension provided that unless they are making themselves eligible within the stipulated period of time given.

13. As teaching is a special service, recruitment of teacher needs to be made special for which Mizoram State Education Service should be constituted so that nepotism and undue favour may be avoided in the recruitment of teachers right from the primary stage.

14. Pre-service Training qualification for teachers right from primary schools irrespective of managements i.e. Government or Private be made compulsory and implemented in right earnest and determination.

15. Rationalisation of teachers irrespective of locations or areas be implemented with a minimum of 3 teachers per primary school.

16. As teaching is a professional activity, teacher education programmes should be recast to reflect professionalism in the process of training and teaching.

17. Teachers should be trained and made acquainted with Mastery based learning approach. Hence, the syllabi of the DIET and College of

Teacher Education should be re-examined and revised so as to cater adequately the required skills in mastery based learning approach.

18. Primary school teachers must be made aware of the competencies implicit in the content they were dealing with and instruction through in-service training.

19. Poor socio-economic background of children can not be directly addressed through the process of teaching and learning. However, poor in learning achievement or learning outcomes can be addressed by improving school environment or learning facilities and teachers' professional qualification. The authority in the government Department may take steps and stringent measures so that only qualified and trained persons work in teaching profession right from the elementary stage both in the government and private Primary schools.

20. All the competencies listed out in the MLL must be covered by textbooks and course objectives/structures.

21. Curriculum construction and development must be done under the guidance of academically qualified and experts personnel for which SCERT at the state level needs to be entrusted.

22. Textbooks development should also be taken up properly under the initiative taken by academically qualified and experts in the field. In this regard, SCERT should also be held responsible since it is closely associated with NCERT from whom it can receive constant help and guidance.

23. Development of reading ability at the early age of children may be given due emphasis since it can be a good predictor of later learning achievement.

24. Mathematics is the most difficult subjects for Mizo pupils right from elementary schools which needs to be addressed properly. Hence, following are suggested for improvement in teaching Mathematics:

- i) Teachers should present mathematics in an interesting manner so that positive attitude may be developed towards mathematics right from the beginning at elementary schools.
- ii) Teachers should be trained specially for teaching mathematics so that they can present mathematics in an interesting manner with systematic methodology.
- iii) Teachers handbook for teaching Mathematics may be made available to every Mathematic teachers right from elementary schools.

25. MLL or expected minimum learning outcomes for all the classes of elementary in the context of Mizo society be formulated by the State Education Department under the initiative taken by SCERT, Aizawl.

#### **5.6.0 Suggestions for further research:**

The present study has analyzed the status of elementary schools in Mizoram in a broad perspective. It may be assumed that some more researchers would take up their research works in this area in the future.

The investigator, therefore, makes the following suggestions for further research in this particular field:

1. An in-depth study of elementary teacher training programmes in Mizoram can be taken up as an independent study.
2. Parents' reactions and expectations, or their attitudes towards or opinions about government and private primary schools can be studied in relation to their socio-economic status (SES) and Education level.
3. An evaluative study of elementary school children of Class VIII in Mizoram can be taken up.
4. An analytical study on job satisfaction of teachers in elementary schools irrespective of management can be conducted.
5. A normative study of numerical development in elementary school children can be carried out.
6. A normative study of life skills development in elementary school children can be carried out.



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(English version)

**COMPETENCY BASED ACHIEVEMENT TEST**

**Question paper.**

**Subject : Environmental Studies.**

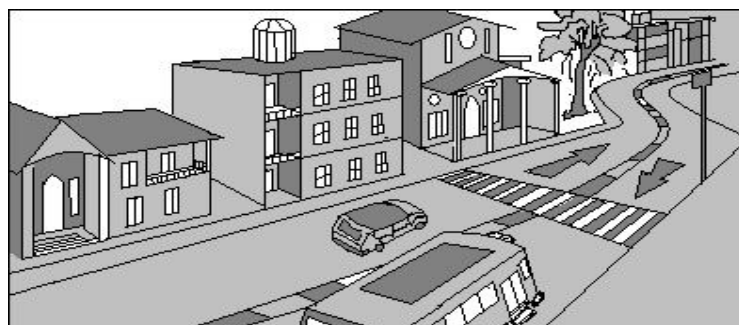
Full mark : 40

Duration : 40 Minutes.

Your answer should only be given in the separate answer sheet provided.

Do not write anything on this Question paper.

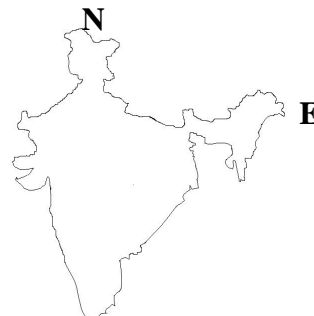
1. You are riding on a bus, on reaching your destination what would you do?
  - i) I would stand near the door and jump down
  - ii) I would ask the bus to stop and when it stops, I would get down.
  - iii) I would wait for the bus to slow down and then jump off
2. What would you do if you had a candy wrapper to throw but there are no trashcans around?
  - i) I would throw it on the side drain
  - ii) I would throw it on the roadside
  - iii) I would keep it in my pocket until I find a trashcan
3. At a large feast, what would be the best thing to do when you carry your own plate?
  - i) Getting the food by rushing and pushing others
  - ii) Forming a queue without rushing and pushing
  - iii) Sliding in among those who have already formed a queue
4. Look at the picture carefully; you will see a black and white crossing along the road. What is this for?
  - i) It is a way of decorating the road
  - ii) It is for vehicle to slow down
  - iii) It is the place for pedestrians to cross the road



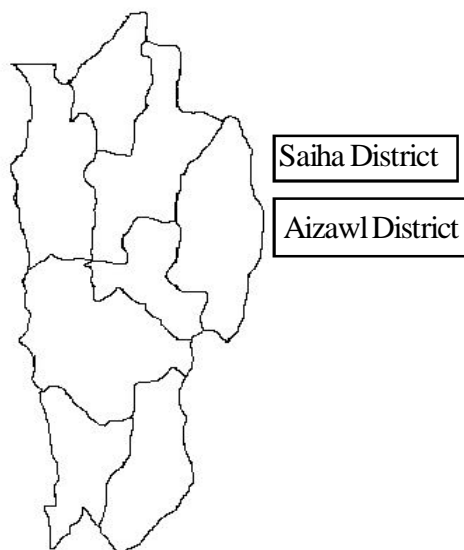
5. Given below is what a Bank is. What is a Bank?
  - i) It is the place where an individual keeps and saves his money
  - ii) It is the place where they make money with machines
  - iii) It is the place where they determine how the government would spend money
6. Given below is what a Village Council is. What is a Village Council?
  - i) It is the authoritative body of a particular area or locality
  - ii) It is the formulator of the laws of the whole country
  - iii) It is the caretaker of the local cemetery and other public properties



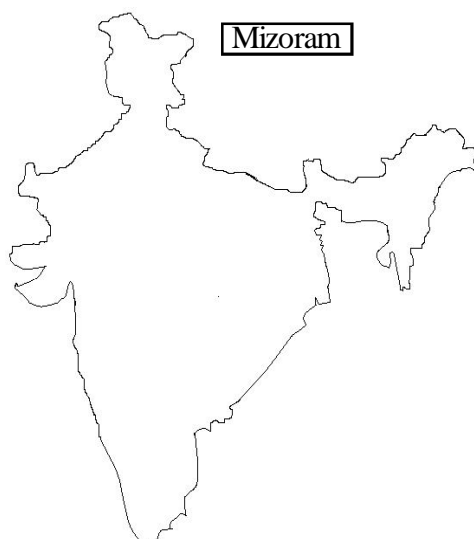
7. What do you think is a Superintendent of Police (S.P)?
- The head of police of an entire state
  - The head of police of a particular district
  - The head of police of a particular village
8. Given below are correct and incorrect statements. Which one is correct?
- You need to have a sugar plantation to harvest rice
  - You need to have a banana plantation to produce sugar
  - In order to produce milk, you need cows
9. Given below in Group A is the list of different workers and in Group B is the list of certain edibles for humans. Match the different producers from Group A with their products from Group B
- | <u>Group A</u>             | <u>Group B</u>         |
|----------------------------|------------------------|
| Rice grower                | Jaggery                |
| Cowherd                    | Rice                   |
| Sugar planter              | Different edible meats |
| Domesticated animal herder | Milk                   |
10. What is a Post Office?
- Preparation of salaries of government officials.
  - Sending letters and parcels to other places.
  - Contacting others through telephones.
11. Given below is a work that a Police Station does not perform, which one is it?
- It is the place where criminals convicted by the Court are jailed
  - It is the place where law breakers are reported
  - It is the place where law breakers are detained for sometime
12. Given below is one of the works performed by a Hospital, which one is it?
- It is the place where tourists stay
  - It is the place where food is given to the poor
  - It is the place where the sick are taken care of
13. In the statements given below, only one is correct, which one is it?
- The rivers of Mizoram flow towards the West
  - The mountains of Mizoram range towards the North and South
  - There are big industries in Mizoram
14. In the map given below, what do 'E' and 'N' stand for?  
 N stands for .....  
 E stands for .....



15. Given below is a map of Mizoram showing district boundaries. Draw a line to denote the correct locations of the districts given in the box.



16. Given below is the map of India. Draw a line to denote the correct place of Mizoram.



17. What kind of weapon did the early man first use?
- i) Iron weapon
  - ii) Stone weapon
  - iii) Bronze weapon
18. Before early men learnt how to build a house, where did they normally live?
- i) In the jungle
  - ii) Under the shades of trees
  - iii) In caves

19. What do you think is the greatest difference between the early man and us today?
- Early man had fewer needs than us
  - Early man had greater needs than us
  - Early man had no need for family
20. On which river banks did the Harappan civilization flourish 5000 years ago?
- On the banks of the Ganges
  - On the banks of the Brahmaputra
  - On the banks of the Indus
21. What do you think is the problem mostly faced by poor people with many children?
- They do not have enough water for their children to drink
  - They do not have enough air for their children to breathe
  - They do not have enough resources to provide for their children's education
22. If the human population grows very rapidly, what would be the first problem we would encounter?
- We would suffer earthquake
  - We would have food shortage problem
  - There would be an outbreak of war
23. The stomach is important because
- It digests the food we eat
  - It gives out blood supply to different parts of the body
  - It stores the air we breathe in
24. The lungs
- Stores the water we drink
  - Receives the different smells of the body
  - Breathes in air and gives it out to different parts of the body
25. Choose the most appropriate ones for dental hygiene from the following statements.
- Eat plenty of sweets
  - Brush your teeth before going to bed and early in the morning
  - To make the teeth strong, occasionally bite on hard objects like iron or bones
26. If you has an earache what would be the best thing to do?
- Clean out the ears with a matchstick or a feather
  - Blow hard into it
  - Go to a doctor at once
27. In the list given below, do you see a living thing? If you do, draw a line to it with the word Living Things.

Stone

Desk

Tree

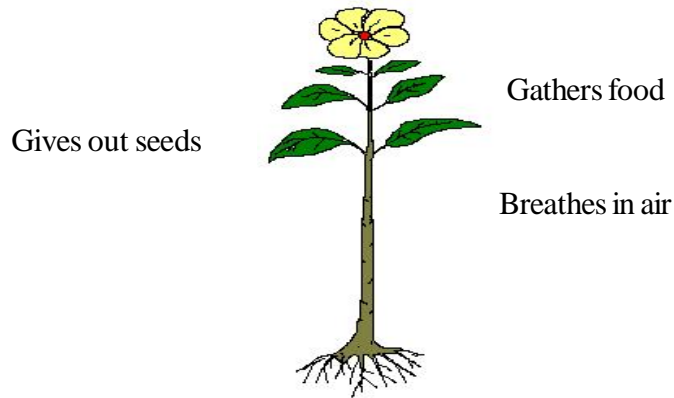
Marble

Fish

River

Living Thing

28. The similarity between plants and animals is
- They can all move from one place to another
  - They all need a house to live in
  - They are both living things
29. Look at the flower below, show the works performed by the different parts by drawing lines to the works they perform and to the parts that perform them.



30. Match the list in Group A and Group B according to their correct answers

| <u>Group A</u>   | <u>Group B</u>     |
|--|--------------------|
| <span style="border: 1px solid black; padding: 2px;">Hard Objects</span> | Tree trunk         |
| <span style="border: 1px solid black; padding: 2px;">Soft Objects</span> | Rubber/Chewing Gum |
|  | Iron               |
|  | Marble             |
|  | Beef               |

31. Solid stuff that could be understood by just touch are:
- Soft and hard
  - Young and old
  - How it is formed
32. Which statement below best describes what a Solar System is?
- How the stars move about in the sky.
  - How the moon revolves round the earth
  - The system of planets revolving around the sun.
33. Does the sun revolve round the earth or does the earth revolve round the sun? Choose the correct answer
- The sun revolves round the earth
  - The earth revolves round the sun
  - The sun and the earth stand still at their places
34. What is the shape of the earth?
- It is flat
  - It is round

- iii) It is oval
35. Why do you think we have day and night? Tick the right answer
- i) The earth rotates on its axis towards the east
  - ii) The earth rotates on its axis towards the west
  - iii) The earth rotates on its axis towards the north and south
36. Why do you think we have spring, summer, autumn and winter in a year?
- i) Because the earth rotates on its axis
  - ii) Because as the earth revolves on its orbit it is sometimes closer and further from the sun.
  - iii) Because of the different layers of the atmosphere
37. What is the one thing that any living being cannot be without even for a short while?
- i) Water
  - ii) Food
  - iii) Air
38. From the list below, choose the thing that gives out carbon dioxide and spoils the air?
- i) Motors and factories
  - ii) Animals
  - iii) Cooking places
39. Among the different waters given below, what do you think is the safest for humans?
- i) Sea water
  - ii) Rain water
  - iii) Lake water
40. What do you think is the biggest polluter of rivers and billabong?
- i) Dust
  - ii) Human waste
  - iii) Animals waste

.....ooOoo.....

(English version)

**COMPETENCY BASED ACHIEVEMENT TEST****Question paper.****Subject : Mathematics.**

Full mark : 40

Duration : 40 Minutes.

Your answer should only be given in the separate answer sheet provided.

Do not write anything on this Question paper.

1. Choose the correct words for the number 997 as given below
  - (a) Seven hundred ninety nine.
  - (b) Hundred ninety seven.
  - (c) Nine hundred and ninety seven.
2. What is the place value of number 6 in the number 9634?
  - (a) Six thousand
  - (b) Six hundred
  - (c) Sixty
3. Below is given the numbers 963, 763, 954, 659, 998 written in their ascending order. Which one is it?
  - (a) 659, 763, 963, 954, 998
  - (b) 659, 763, 954, 998, 963,
  - (c) 659, 763, 954, 963, 998.
4. If the number 968 is written in its extended form, which one would be the correct answer?
  - (a)  $9000 + 600 + 8$
  - (b)  $900 + 60 + 8$ .
  - (c)  $960 + 8$ .
5. What is the lowest form for a four digit number?
  - (a) 1001
  - (b) 9999
  - (c) 1000
6. In the signs given below, one is incorrect. Which one is it?
  - (a)  $982 < 929$ .
  - (b)  $782 = 782$ .
  - (c)  $982 > 929$ .
7. Pick out the even numbers by drawing circles round them
  - (a) 642 646 741 845 946 447 648
8. From the numbers 21, 34, 35th, 40, 41st, 50, 52nd, 70, 77, pick out ordinal numbers and write them down.
9. Using the numbers 8, 7, 9 make the largest unit
10. What would be the added result of 437 and 470?
  - (a) 907
  - (b) 807
  - (c) 709
11. What would be the multiplied result of 121 and 12?
  - (a) 363
  - (b) 1452

(c) 1542

12. Below is given some numbers; some of the numbers in the box are blackened. Say if these numbers belong to seven, eight or nine multiplication tables

|    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|-----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20  |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30  |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40  |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50  |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60  |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70  |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80  |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90  |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Choose the correct answer

- (a) Seven (7) times
- (b) Eight (8) times
- (c) Nine (9) times

3. Divide 924 by 6 and choose the correct answer from below

- (a) 154 dividends (Remainder) 0.
- (b) 152 dividends (Remainder) 2.
- (c) 151 dividends (Remainder) 0.

14. In a village there are 960 people. Among them 330 are male adults, 440 are female adults, and the rest are children. How many children are there in the village?

- (a) 190
- (b) 191
- (c) 196

15. Thanga has Rs 10. With Rs 5 he bought a sweet, and with Rs 2 he bought one pencil. How many rupees does he still have?

- (a) Rs 2
- (b) Rs 3
- (c) Rs 4

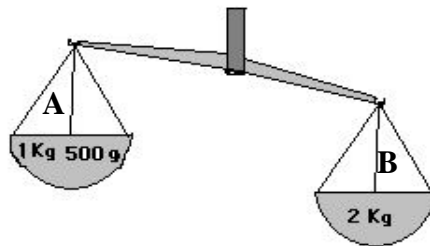
16. Rs 50 is divided equally among four people. How much does each person get?

- (a) Rs 12.00
- (b) Rs 12.30
- (c) Rs 12.50

17. How much is 75 metres in a centimetre? Choose the correct answer from below

- (a) 75000 cm
- (b) 7500 cm
- (c) 750 cm

18. If you were to put 875 cm in metre and centimetre, which one would you use?  
 (a) 87 m 05 cm  
 (b) 8 m 75 cm  
 (c) 8 m 750 cm
19. I bought a bamboo stick of 4m 25cm and 3m 98cm in length, What would be the length of the two bamboos?  
 (a) 8 m 23 cm  
 (b) 9 m 20 cm  
 (c) 8 m 42 cm
20. I bought a cloth measuring 60m 48cm, I divided it equally among three people. How much would each person get?  
 (a) 20 m 10 cm each  
 (b) 21 m 12 cm each  
 (c) 20 m 16 cm each
21. If a man's arm length is equivalent to 1m 60 cm, what would be the length of 10 arm's length?  
 (a) 16 m 00 cm-a thui a ni ang.  
 (b) 10 m 600 cm-a thui a ni ang.  
 (c) 10 m 060 cm-a thui a ni ang.
22. I bought 3 kgs of rice. 1 kg costs Rs 13.40 If i give Rs. 50 to the shopkeeper, how much would he return?  
 (a) Rs 9.20  
 (b) Rs 9.80  
 (c) Rs 10.20
23. Look at the picture below. Think of the difference in weight between the two scales and choose the correct answer



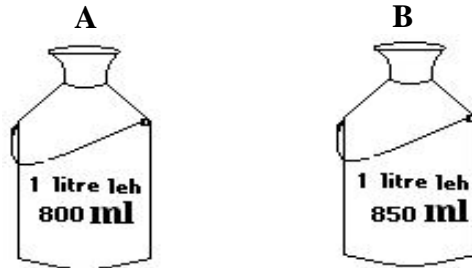
- (a) Scale 'A' is heavier than Scale 'B' by 600 grams  
 (b) Scale 'A' is 500 grams heavier than Scale 'B'  
 (c) Scale 'B' is 200 grams more heavier than Scale 'A'
24. Put 950 grams into a kilogram  
 (a) 95.000 Kg  
 (b) 0. 950 Kg  
 (c) 9.500 Kg
25. Put 56 Kilogram into grams  
 (a) 560 g  
 (b) 5600 g  
 (c) 56000 g



26. I have 22 kg 50 g of rice, I bought another 12 kg 20 g, how much do I have in all?

- (a) 32 Kg 70 g
- (b) 34 Kg 70 g
- (c) 36 Kg 70 g

27. Look at the milk bottle 'A' leh 'B', on their sides are written how much they can carry. Which milk bottle can carry more?



Choose the correct answer

- (a) 'A' can carry more.
- (b) 'B' can carry more
- (c) Both 'A' leh 'B' can carry the same amount

28. How much is 80 litres in millilitre?

- (a) 80000 ml
- (b) 8000 ml
- (c) 800 ml

29. If we put 322 l. 50ml and 141 l. 22ml in one place, how much will it be?

- (a) 463 l. 72 ml
- (b) 462 l. 72 ml
- (c) 466 l. 72 ml.

30. I am about to buy 5 litres of fruit juice. At the shop they have only 500 ml of fruit juice. How much bottles do I have to buy to have 5 litres of fruit juice?

- (a) 8 bottles
- (b) 9 bottles
- (c) 10 bottles

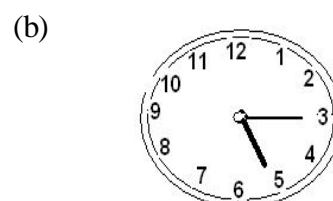
31. The face of a clock is divided into 12 parts, each part has 5 minutes. How many minutes would the 12 parts be?

- (a) 40 minutes
- (b) 50 minutes
- (c) 60 minutes

32. How many times does the hour-hand of a clock go round in 24 hours?

- (a) 2 times
- (b) 12 times
- (c) 24 times

33. What time does each clock in the picture show? write your answers in the box given



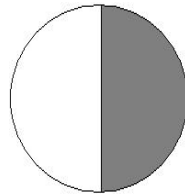
34. Look at the 2008 January calendar carefully. What day is 11.1.2008 in a week?

January, 2008.

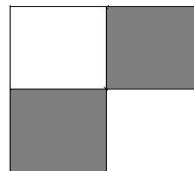
| Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|-----|-----|-----|-----|------|-----|-----|
|     |     | 1   | 2   | 3    | 4   | 5   |
| 6   | 7   | 8   | 9   | 10   | 11  | 12  |
| 13  | 14  | 15  | 16  | 17   | 18  | 19  |
| 20  | 21  | 22  | 23  | 24   | 25  | 26  |
| 27  | 28  | 29  | 30  | 31   |     |     |

Choose the correct answer

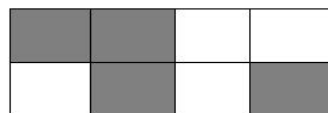
- (a) Thursday  
 (b) Friday  
 (c) Saturdat
35. In the figure given, how much space do the dark shades occupy in the circle? Write your answer in the answer sheet



36. In the square given, measured from all four sides, how much space does the white shades occupy? Write your answer in the answer sheet

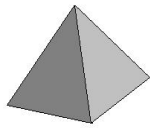
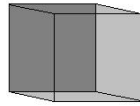


37. Look at the figure carefully, which fraction given beside matches the black shades most



- (a)  $\frac{4}{6}$   
 (b)  $\frac{3}{8}$   
 (c)  $\frac{4}{8}$

38. What are the names of these figures. Match the figures with their names by drawing lines



Pyramid

Cube

Cuboid

Circle.

Triangle.

Rectangle.

.....

## COMPETENCY BASED ACHIEVEMENT TES

(A)

QUESTION PAPERSubject : Language (Mizo).*Your answer should only be given in the separate answer sheet provided.**Do not write anything on this Question paper.***Full mark : 40****Duration : 40 minutes**

1. Following questions and answers should be responded by pupils after listening a story entitled 'A Cunning Monkey' (The story to be told is provided separately to the test administrator). (4x1)
- 1.1. Ipte chhungah khan enge awm?
    - (i) Pawisa te a awm.
    - (ii) Samkhuih leh bakilh a awm.
    - (iii) Samkhuih leh darthlang a awm.
  - 1.2. Chapo tak leh intitheh taka kal thauh thauh kha tunge?
    - (i) Sakei.
    - (ii) Chinghnia.
    - (iii) Zawngte.
  - 1.3. Sakeiin "ka ben hma che hian tlanche rang la a ni mai' tia a vau kha tu nge?
    - (i) Savawm.
    - (ii) Zawngte.
    - (iii) Sihal.
  - 1.4. Sakeiin Zawngte \hiana a siam chhan ber kha enge?
    - (i) Zawngte kha a chak hlein a hria a, a hlauh deuh avangin.
    - (ii) Zawngte kha a khawngaih avangin.
    - (iii) Zawngte kha hmeltha a tih avangin.
2. Children should be asked to follow instruction and respond in their answer sheet separately provided
- 2.1 Task No I to be responded as per Instruction I (1x1)
  - 2.2. Task No II to be responded as per Instruction II (1x1)
  - 2.3 Taks No III is sentence writing as per dictation given. (4x1)
3. In the following sentences, the correct pronunciation of those words marked with single inverted comma should be expressed by selecting the correct expression given.(4x1)
- 3.1 'Fanghma '\o' zawng' tih thua '\o' hi engtia lam rik tur nge?
    - (i) 'hnim a '\o' kan tiha '\o' ang hian lam rik tur.
    - (ii) ' | o thlipui a lo tleh dawn' kan tiha '\o' ang hian lam rik tur.
    - (iii) A chung a mite hi a chhanna atan a dik lo ve ve.
  - 3.2 'Mithi ka ral' tih thua 'ral' hi engtia lam rik tur nge?
    - (i) 'Ral hlauvin an tlan chhia' tiha 'ral' ang hian lam rik tur.
    - (ii) 'Lui ral leh lamah ka kai' tiha 'ral' ang hian lam rik tur.
    - (iii) A chung a mite hi a chhanna atan a dik lo ve ve.
  - 3.3 'Leipuih ka feh' tiha 'lei' tih hi engtia lam rik tur nge?
    - (i) 'Chhang ka lei' tiha 'lei' ang hian lam rik tur.
    - (ii) 'Rulin lei a nei' tiha 'lei' ang hian lam rik tur.
    - (iii) A chung a mite hi a chhanna atan a dik lo ve ve.
  - 3.4 'Ban khur tur ka cho' tiha 'khur' hi engtia lam rik tur nge?
    - (i) 'A vawt lutuka ka khur' tiha 'khur' ang hian lam rik tur.
    - (ii) 'Khur thuk takah a tla' tiha 'khur' ang hian lam rik tur.
    - (iii) A chung a mite hi a chhanna atan a dik lo ve ve.

4. Write about your school with not less than three sentences. (3x1)
5. Read carefully the following short story given in a box and construct at least three questions out of the story which could be answered from the story itself. (3x1)

Nikhath chu Zova sikul bang chuan Zawhte ngiau ri hi a hria a. Chu Zawhte ngiau ri chu a hma lam hnim kar a langa lo chhuak a ni. Chuti lai hmun a thlen chuan a han en vel a, Zawhte note hi hnim hlingnei karah hian a lo tang reng mai a. Akhawngaih hle a. Lak chhuah tumin hnim hlingnei karah chuan a vak lut ta a. Hlingte chuan nasa takin Zova chu an lo chhun a. A tawp a tawpah chuan harsa takin Zawhte chu a chhan chhuak thei hram a. Akhawngaih em avangin inah a hawn a, a hliamte chu silfaiin bawngnhute te a intir a. Anu hnenah chuan “Ka nu en teh Zawhte hi a nalh a sin, kan vulh thei a ngen?” a ti a.

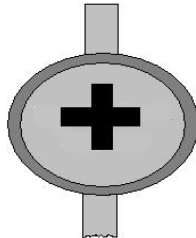
6. Do you often see notices or writings or signs openly stick at road sides or in different public places? Following are such notices or signs which you often see at road sides or in public places. Look into these notices and signs carefully and choose the appropriate messages of the signs or notices out of the given proposed answer: (4x1)

6.1



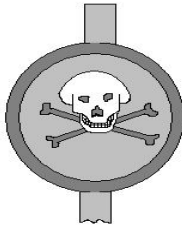
- (i) Mei zuk phal lohna hmun (No smoking zone)  
 (ii) Mei zuk phalna hmun. (Smoking zone)  
 (iii) Mei laka fimkhur a tulna hmun ( Be careful with fire)

6.2



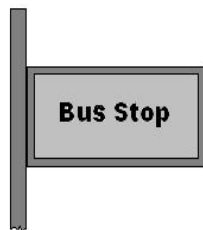
- (i) Thlanmual chhinchhiahna. (A sign for public cemetery)  
 (ii) Damdawi in chhinchhiahna. (Hospital sign)  
 (iii) Hotel a awm tih chhinchhiahna. (A sign for hotel)

6.3



- (i) Mimal Thlanmual hmun (A sign for somebody's grave)  
 (ii) Miring tana hlauhawm chhinchhiahna. (Danger sign)  
 (iii) Mithi dahna hmun. (A sign for morgue)

6.4



- (i) Bus tlan phal lohna hmun. (Closed for buses)  
 (ii) Bus chhe siamna hmun. (A sign for bus repairing workshop)  
 (iii) Bus channa hmun. (Bus station or waiting shed)

7. Carefully read the following handwritings and choose the corresponding correct sentence out of the given printed sentences below respectively. (2x1)

7.1 *Ka nu min hmangaihna ka hria*

(i) Ka nuin min hmangaih em em tih ka hria.  
(ii) Ka nu min hmangaihna ka hria.  
(iii) Ka nu chuan min hmangaih em em tih ka hria.

7.2 *Sikul hi nuam ka ti fo thin*

(i) Sikul kai hi nuam ka ti thin.  
(ii) Sikul hi nuam ka ti fo thin.  
(iii) Sikul chu nuam ka ti hle thin.

8. Complete the following sentences appropriately (2x1)

- 8.1. Thanga chu a nu leh pate phal lo chungin .....
- 8.2. India ram hi khawvela .....

9. **Read the following short story carefully.**

“Hman lai hian pa pakhat hi a awm a. Nupui a nei a. A nupui nen chuan an hlim dun em em thin a. Fapa pakhat a hrin sak hnu lawkin a nupui chuan a boral san ta hlauh mai a. A lung leng em em \hin a. A fapa chu duat takin a enkawl a. A hmingah chuan Lunghnema a sa a, mite chuan Hnemte tiin an ko \hin.

Hnemtea chu mipa naupang fel tak a lo ni ta a. Nikhat chu a pa chuan lovah a hruai ve a, a pa hnathawh lai chuan amahin thlam bul velah a lo awm ve a. Chutia a pa hmuh phak lova amah chauha a awm lai chuan | huro nupa hi a bula thing zarah chuan an lo fu a, amah chu an lo en kiau mai a. Hnemtea chuan chung sava pahnihte chu a hmuh chuan mawi a ti a, a en reng a. Chutia a en reng lai chuan | huro pa zawk chuan “Hnemte, nu pawh i nei si lova kan khawngaih hle mai che” a tita reuh va. Sava an \awngthei ngai si lova, Hnemtea chuan mak a ti hle a, chhan ngaihna pawh a hre lova. | huro nu zawk chuan “Hnemte, miten an velh che hian kan hmu reng \hin che a, kan khawngaih \hin khawp che a sin” a ti leh ta zel a. Hnemtea chuan “Sava in ni si a, in \awngthei em ni?” a tita ngawt a. | huro pa zawk chuan “ | awngthei teh reng e a, mahse nangni hian kan tawng hi inhrethei lo mai mai a lawm. Tunah hi chuankan khawngaih em che avangin kan \awng i hrethei chauh a nih hi” a ti leh a. “Kan \awng hi nangni chuan in hre thei vek em ni?” tiin Hnemtea chuan a zawt leh a. | huro pa zawk bawk chuan “Mi zawng zawng \awng chu kan hre thei bik lova, mah se naupang \awng hi chu kan hre thei a lawm. Mahse min tihnat an tumchuan kan hlauva, an \awng kan hre thei lo” a ti a. “

**Answer the following questions by choosing the appropriate answers from the suggested answers given below. (4x1)**

- 9.1 Hnemte kha engrual a nihin nge a nuin a thih san le?  
(i) A pian hnu lawkin a thi.  
(ii) Naupang fel tawh tak a nih hnuin a thi  
(iii) Lian tawh deuh hlek a nih hnuina thi.
- 9.2 | huro nupate khan naupang tute \awng nge an hriat theih ve loh kha?  
(i) Mipa naupang.

- (ii) Hmeichhe naupang.
  - (iii) Sava perh ching naupangte.
- 9.3. "Hnemte, nu pawh i nei si lova kan khawngaih hle mai che" titu kha tunge?
- (i) Hnemtea thian mipa naupang pakhatin.
  - (ii) | huro nu zawkin.
  - (ii) | huro pa zawkin.
- 9.4 Hnemtea'n | huro \awng a hriat theih bik chhan an sawi kha enge?
- (i) Hnemtea kha fel bik vangin.
  - (ii) Thurote khan an khawngaih em avangin.
  - (iii) Hnemtea khan tihnat a tum ve loh avang.

10. Match the following words in group A and B appropriately. (6x<sup>1</sup>/<sub>2</sub>)

**Group A**

Mi dik.

Rorum

Mi sual

Thinchhia

Kutkem nei

Hlim

**Group B**

Lawm

Thinram

Mi rinawm

Mi fello

Huaisen

Rukhmang.

11. Give antonym to the following words.

Example - 'happy' is to 'sorrow'. (6x<sup>1</sup>/<sub>2</sub>)

Lian.    Huaisen.    Thlaphang.    Var.    Muang.    Chak.

12. Do you have Mizo to English Dictionary at home? Suppose you want to see the dictionary meaning **of a word 'Door'** how will you start searching in the Dictionary?

Therefore, you are going to see the dictionary meaning of the following English words from your Dictionary. How will you start searching? Please tick inside the given box against the correct procedures.

12.1 Thumal en tur : **House**

- (i) A bul atangin ka zawng ang.
- (ii) Thumal 'O' a in\anho awmna laiah ka zawng \an ang.
- (iii) Thumal 'H' a in\anho awmna laiah ka zawng \an ang

12.2 Thumal en tur : **Door.**

- (i) A bu tawp lam a\angin ka zawng \an ang.
- (ii) Thumal 'O' a in\anho awmna laiah ka zawng \an ang.
- (iii) Thumal 'D' a in\anho awmna laiah ka zawng \an ang

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# **OBJECTIVES AND STATEMENT**

**OF**

**M.L.L**

**(MINIMUM LEVELS OF LEARNING)**

**FOR CLASS III CHILDREN.**

**(English Version)**

(As per the Report of the Committee set up  
by the Ministry of Human Resources Development,  
Department of Education, Govt. of India.)



## MINIMUM LEVELS OF LEARNING FOR CLASS III IN LANGUAGE.

- A. Objective of Language Learning at the Primary State:
- to be able to listen with understanding.
  - to be able to speak effectively in both informal and formal transactions.
  - to be able to read with comprehension and enjoy reading various kinds of instructional materials;
  - to be able to write neatly, with logical sequence and creativity;
  - to be able to comprehend ideas through listening and reading;
  - to be able to use grammar functionally in various contexts.
- B. Statement of MLLs in Language for Class III:
1. **Listening:**
    - Listen with understanding to narrations, descriptions, word-play and riddles.
    - Understand conversation and dialogue in unfamiliar situations.
    - Understand oral instructions for playing games, carrying out simple activities.
  2. **Speaking:**
    - Speak with correct pronunciation.
    - Narrate simple known stories with proper modulation and action.
    - Describe familiar things and objects.
    - Ask more complex questions.
  3. **Reading:**
    - Read road signs, hoardings and simple notices (as on a notice board).
    - Read handwriting of other children.
    - Read simple story books and other children's books.
  4. **Writing:**
    - Take dictations of correct shape, sequence, spacing of letters and words.
    - Take dictation with unknown words.
    - Write simple guided composition.
  5. **Comprehension of ideas (through listening and reading).**
    - Locate main ideas in a spoken or written text.
    - After listening or reading a text, be able to answer questions of 'why'.
  6. **Functional Grammar:**
    - Become aware of meaning relationship between words.
  7. **Self-learning:**
    - Be able to use Children's Illustrated Dictionary where available.
  8. **Language use:**
    - Take turn while speaking in group.
  9. **Vocabulary Control:**
    - Be able to acquire reading comprehension vocabulary of approximately 3000 words.

## **MINIMUM LEVELS OF LEARNING FOR CLASS III IN MATHEMATICS.**

- A. Objectives of Mathematics Learning in the Primary Stage:
- to be able to perform computations, with speed and accuracy;
  - to be able to translate verbal statement (a) in Mathematical form using appropriate symbols, and (b) diagrammatically;
  - to be able to make reasonably good approximations and estimate measurements;
  - to be able to apply mathematical concepts and skills to solve simple problems of day-to-day life;
  - to be able to think logically;
  - to be able to recognize order and pattern;
- B. Minimum Learning Competencies in Mathematics at the Primary Stage:
- Understanding Whole Numbers and Numerals.
  - Ability to Add, Subtract, Multiply and Divide Whole Number.
  - Ability to use and solve simple problems of daily life relating to units of money, length, weight, capacity, area and time.
  - Ability to use fractions, decimals and percentage.
  - Understanding of geometrical shapes and spatial relationships.
- C. Statement of MLLs in Mathematics for Class III:
1. **Understanding Whole numbers and numerals.**
    - 1.3.1 Recognizes and writes numerals from 100 - 1000.
    - 1.3.2 Writes numbers names from 1 - 100.
    - 1.3.3. Demonstrates understanding of place value of 3-digit numbers by expanding numbers between 100-999 into 100's, 10's and ones, and by expressing the expanded form as a 3-digit number.
    - 1.3.4 States the place value of the digits within a 3-digit numeral.
    - 1.3.5 Arranges numbers from 100-1000 in ascending and descending order.
    - 1.3.6 Identifies the numeral/numerals before, after or between any numeral/numerals between 100 - 1000.
    - 1.3.7 Compares numbers from 100-1000 using the signs  $>$  ,  $<$  and  $=$ .
    - 1.3.8 Demonstrates understanding of even and odd numbers.
    - 1.3.9 Demonstrate understanding of ordinal numbers 11 - 100.
  2. **Ability to Add, Subtract, Multiply and Divide Whole numbers.**
    - 2.3.1 Adds two or three digit numbers with carrying and sum not exceeding 999.
    - 2.3.2 Subtract 3-digit numbers with borrowing.
    - 2.3.3 Solves 1 - 2 steps of daily life problems involving skills 2.3.1 and 2.3.2.
    - 2.3.4 Adds and subtracts mentally two numbers that are whole 100's, where no number in the operation exceeds 1000.
    - 2.3.5 Solves one step of daily life problems mentally involving additional and subtraction with no number exceeding 50 and no carrying/borrowing.
    - 2.3.6 Adds and subtracts mentally two numbers that are multiples of 10 or 100, between 10 - 1000 where one of the numbers is a 2-digit number and where no carrying or borrowing is involved, e.g.  $220 + 40$ ,  $850 - 20$ .
    - 2.3.7 Demonstrates understanding of concept of multiplication as repeated addition with 6, 7, 8 and 9 as factors.
    - 2.3.8 Knows mentally and in writing multiplication tables with 2 - 10 as factors.

- 2.3.9 Multiplies 2 and 3-digit numbers with single digit with carrying and product not exceeding 999.
- 2.3.10 Demonstrates understanding of the concept of division as repeated subtraction.
- 2.3.11 Divide a 3-digit number by a single digit number without borrowing and without remainder.
- 2.3.12 Solves one step of daily life problems of multiplication and division using skills 2.3.9 and 2.3.11.
- 2.3.13 Solves one step of daily life problems mentally involving multiplication and division with 1 - 10 as factors and divisors and products and dividend not exceeding 100.

**3. Ability to use and solve simple problems of daily life relating to units of money, length, weight, capacity, area and time.**

Money:

- 3.3.1 Uses real or toy money in currency and coins in examples of 1-step daily transactions with values not exceeding Rs 10.
- 3.3.2 Solves simple money problems using either addition or subtraction without conversion, e.g. simple shopping accounts.
- 3.3.3 Solves mentally daily life problems involving paise in multiples of 5 and 10, upto Rs 1.
- 3.3.4 Solves mentally 1-step daily life problems involving whole rupees where the sum does not exceed Rs 50.

Mass (Weight):

- 3.3.9 Understands the relationship between the standard units of mass (weight), i.e. between kilograms and grams.
- 3.3.10 Identifies the different block measures of mass such as 50 grams, 100 grams, 200 grams, 500 grams, 1 kilograms and 2 kilograms.
- 3.3.11 Adds the mass (weight) of 2 or 3 objects when the mass of each object is expressed in kilograms and grams without conversion.
- 3.3.12 Finds the difference in the mass of two objects when the mass of each objects is expressed in kilogram and grams without conversion.

Capacity:

- 3.3.13 Understands the relationship between standard units of measuring capacity (i.e. litre and millilitre)
- 3.3.14 Adds two or three quantities of liquid, and writes the sum expressed in litres and millilitres without conversion.
- 3.3.15 Finds the difference between two quantities of liquids when both are expressed in litres and millilitres without conversion.
- 3.3.16 Estimates small units of capacity in terms of non-standard measure such as cups, match-boxes, bottles, etc.
- 3.3.17 Calculates surface area of rectangular regions using non-standard units such as bricks, tiles, match-boxes, etc.
- 3.3.18 Estimate small units areas in terms of square and rectangular objects such as match-boxes, bricks, tiles (non-standard units).

Times:

- 3.3.19 Reads clocks by hour, 1/2 hour, 1/4 hour and five minutes intervals.
- 3.3.20 Adds hours and minutes without conversion.
- 3.3.21 Interpretes a calendar.

4. **Ability to use Fractions, Decimals and Percentage:**

Fractions:

- 4.3.1 Demonstrates orally understanding of fractions as parts of region (spatial) using concrete objects/diagrams/paper folding.
- 4.3.2 Demonstrates understanding of the meaning of proper fractional numbers as parts of regions with the numerator and denominator not exceeding 10.

5. **Understanding of Geometrical Shapes and Spatial Relationships.**

- 5.3.1 Recognizes and classifies various solids in the environment with their geometrical names (e.g. cuboid, sphere, cube, cone, cylinder).
- 5.3.2 Draws plane shapes, e.g. square, rectangle, triangle and circle using objects which have straight or curved edges.
- 5.3.3 States properties of triangle, rectangle and square.

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**MINIMUM LEVELS OF LEARNING FOR CLASS III**  
**IN ENVIRONMENTAL STUDIES.**

A. The ten major competencies aimed at the cognitive, affective and psychomotor domains of development together with the content elements associated with them are enumerated below:

The pupil at the Primary State -

- i) acquires awareness about one's well-being in the context of social and natural environment.
- ii) explores important aspects of one's socio-civic environment and comprehends their working;
- iii) knows about various people at work and appreciates the importance about the world of work;
- iv) understand and interpretes the spatial and interacting relationship between man and his environment;
- v) begins to see the relationship between man's past and present, and to hold the past in its proper perspective;
- vi) senses common but simple and easily observable socio-economic situations and problems, analyses them and seeks possible solutions at his level of experience;
- vii) understand the factors contributing to the preservation of good health;
- viii) develops skill in gathering and classifying information about living things from one's environment, and drawing simple inferences;
- ix) observes and examines some common characteristics of non-living things;
- x) observers simple phenomenon on the earth and in the sky and draws inferences.

B. **Statement of MLLs in Environmental Studies for Class III:**

1. **The pupil acquires awareness about one's well-being in the context of social and natural environment;**
  - 1.3.0 Rules of safety and orderly behaviour.
  - 1.3.1 Appreciates the need for orderly behaviour in home, school and public places.
  - 1.3.2 States in queue and waits for his turn.
  - 1.3.3 Interpretes important road symbols (as applicable).
  - 1.3.4 Observes important rules of road (as applicable).
2. **The pupil explores important aspects of one's socio-civic environment and comprehends their working;**
  - 2.3.0 Civic amenities that make our life comfortable.
  - 2.3.1 Enquires about the functions of such public institutions as hospital, police station, post office, panchayat/municipality, court and bank.
  - 2.3.2 Knows about the importance of some district level functionaries, e.g. District Magistrate, Superintendent of Police, etc.
3. **The pupil knows about various people at work and appreciates the importance about the world of work;**
  - 3.3.0 Life and activities of some people at work - food producing.
  - 3.3.1 Lists the occupations engaged in producing various articles of daily need.
  - 3.3.2 Identifies those who produce food stuffs, e.g. farmer, dairyman, fisherman and herds man.
  - 3.3.3 Describe their main activities and their ways of life.

4. **The pupil understand and interpretes the spatial and interacting relationship between man and his environment;**
  - 4.3.0 Our district.
  - 4.3.1 Draws a sketch of the classroom and a freehand sketch map of school and locality or part of it.
  - 4.3.2 Identifies direction on a map/sketch map.
  - 4.3.3 Locates the district in the State and the State in India.
  - 4.3.4 Knows about important physical features, climate, vegetation, crops and industries of the district.
  - 4.3.5 Traces the map of the district and shows physical features, important places and routes.
  - 4.3.6 Describes life of people of the district ( a few selected examples).
  
5. **The pupil begins to see the relationship between man’s past and present, and to hold the past in its proper perspective;**
  - 5.3.0 Our Early Forefathers.
  - 5.3.1 Describes the life of the early man.
  - 5.3.2 Understand why his life was very different from ours.
  - 5.3.3 Understand the mode of his life and circumstances in which he lived.
  - 5.3.4 Knows simple facts about the life of people in some important parts of India, 5000 years ago.
  
6. **The pupil senses common but simple and easily observable socio-economic situations and problems, analyses them and seeks possible solutions at his level of experience;**
  - 6.3.0 Small family, happy family (small family norms).
  - 6.3.1 Observes the difficulties faced by large families living in small houses.
  - 6.3.2 Observes overcrowding in hospitals, trains, buses, etc (as applicable) countryenriches.
  - 6.3.3 Compares the situation regarding over-crowding today with that of earlier days by talking to elders in the locality.
  
7. **The pupil understand the factors contributing to the preservation of good health;**
  - 7.3.0 Functions and care of different parts of body.
  - 7.3.1 Understands important functions of human body, such as digestion, respiration, blood circulation, etc.
  - 7.3.2 Knows how to take poroper care of such parts of the body as eyes, hair and teeth.
  
8. **The pupil develops skill in gathering and classifying information about living things from one’s environment, and drawing simple inferences;**
  - 8.3.0 Living things - their characteristics and classification.
  - 8.3.1 Observes local surrounding and classifies things into (i) living and non-living, (ii) natural and man-made.
  - 8.3.2 Understand similarities and differences between animals and plants.
  - 8.3.3 Identifies main parts of a plant.
  - 8.3.4 Classifies common parts of a plant.
  - 8.3.5 Observes food habits of different animals and birds

9. **The pupil observes and examines some common characteristics of non-living things;**  
9.3.0 Common materials and their properties.  
9.3.1 Identifies common materials on the basis of some easily observable properties, e.g. colour, texture and hardness.  
9.3.2 Classifies given materials according to these properties.
10. **The pupil observes simple phenomenon on the earth and in the sky and draws inferences**  
10.3.0 The earth and the sun.  
10.3.1 Earth-sun relation and consequences.  
10.3.2 Describes the shape of the earth (evidence of photograph).  
10.3.3 Relates occurrences of day and night to the rotation of the earth.  
10.3.4 Observes differences in the duration of day-light over the year.  
10.3.5 Generalizes about the occurrence of seasons.  
10.3.6 Observes consequences of the occurrence of seasons.  
10.3.7 Air in our life.  
10.3.8 Explain the usefulness of air.  
10.3.9. Knows how air gets polluted.  
10.3.10 Water in our life.  
10.3.11 Describes different uses of water.  
10.3.12 Knows about different sources of water.  
10.3.13 Locates various sources of water in the locality.  
10.3.14 Finds out how water gets polluted.

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Date:.....

**OBSERVATION-CUM-INTERVIEW SCHEDULE.**

## A Particulars of School (as on 1st March, 2010):

Name of School : .....

Location - District : ..... Village/City: .....

## B. General Information about School(as on 1st March, 2010):

1. School management: (1-8)

1: Government. 2: Private: 2. Location: 1. Urban. 2. Rural. C. **Teachers(as on 1st March, 2010):**

1. Teachers teaching Primary classess on roll as on the day of survey:

| General Eductional Qualification. |      |  |  |      |   |        |   |         |   |         |   | Profesional qualification. |   |      |   |       |   | Total No of techers |   |   | Sanction strength.<br>(if any) |   |       |
|-----------------------------------|------|--|--|------|---|--------|---|---------|---|---------|---|----------------------------|---|------|---|-------|---|---------------------|---|---|--------------------------------|---|-------|
| Read upto                         |      |  |  | HSLC |   | CI-XII |   | B.A (G) |   | B.A (H) |   | M.A                        |   | DIET |   | B.Ed. |   | M.Ed                |   | M |                                | F | Total |
| CL-VI                             | VIII |  |  | M    | F | M      | F | M       | F | M       | F | M                          | F | M    | F | M     | F | M                   | F |   |                                |   |       |
|                                   |      |  |  |      |   |        |   |         |   |         |   |                            |   |      |   |       |   |                     |   |   |                                |   |       |



F. **School facilities(as on 1st March, 2010):**

1. State whether you have the following: If 'No' give 0; If 'yes' give =1

- |      |  |   |                          |
|------|--|---|--------------------------|
| (1)  | Maps.  | : | <input type="checkbox"/> |
| (2)  | Globe.   | : | <input type="checkbox"/> |
| (3)  | Charts (Health, Social Studies, Language, etc)   | : | <input type="checkbox"/> |
| (4)  | Play material & Toys.                            | : | <input type="checkbox"/> |
| (5)  | Games equipment                                  | : | <input type="checkbox"/> |
| (6)  | Primary Science Kit.                             | : | <input type="checkbox"/> |
| (7)  | Mini Tool kit.                                   | : | <input type="checkbox"/> |
| (8)  | Mathematics Kit.                                 | : | <input type="checkbox"/> |
| (9)  | Books for Library:                               |   |                          |
|      | a) Children Illustrated dictionaries (English):: |   | <input type="checkbox"/> |
|      | b) English - Mizo Dictionary.                    | : | <input type="checkbox"/> |
|      | c) Encyclopaedia.                                | : | <input type="checkbox"/> |
|      | d) Children's Book                               | : | <input type="checkbox"/> |
|      | e) Magazines, Journals, newspapers.              | : | <input type="checkbox"/> |
| (10) | School Bell.                                     | : | <input type="checkbox"/> |
| (11) | Musical instrument.                              | : | <input type="checkbox"/> |
| (12) | School furniture like benches and desks.         | : | <input type="checkbox"/> |
| (13) | Chairs for teachers.                             | : | <input type="checkbox"/> |
| (14) | Tables for teachers.                             | : | <input type="checkbox"/> |
| (15) | Blackboard.                                      | : | <input type="checkbox"/> |
| (16) | Pin-up board/Notice board.                       | : | <input type="checkbox"/> |
| (17) | Chalk and duster.                                | : | <input type="checkbox"/> |
| (18) | Water pitcher, ladle, glasses.                   | : | <input type="checkbox"/> |
| (19) | Dust-bin.  | : | <input type="checkbox"/> |
| (20) | Safe drinking water.                             | : | <input type="checkbox"/> |
| (21) | Toilet facilities.                               | : | <input type="checkbox"/> |
| (22) | Separate toilet facilities for girls.            | : | <input type="checkbox"/> |
| (23) | Electric connection for the school.              | : | <input type="checkbox"/> |
| (24) | T.V.   | : | <input type="checkbox"/> |
| (25) | Computer.  | : | <input type="checkbox"/> |
| (26) | Playground facilities.                           | : | <input type="checkbox"/> |
| (27) | Annual medical check up for children.            | : | <input type="checkbox"/> |
| (28) | Immunization facility.                           | : | <input type="checkbox"/> |
| (29) | First aid kit.                                   | : | <input type="checkbox"/> |

Signature of Field Investigator.