RESEARCH PAPER

Use of Teaching Learning Materials in Science at Upper Primary school in Mandleshwar Khargone, (Madhya Pradesh): An Analysis

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ABSTRACT

The prime objective of teaching science is to develop such skills in a student which helps him to know the facts, principles of science, its applications, identify the objects and to make concept clearity through the use of teaching learning materials.

The need of the study is to know the extent of the utilization of teaching learning materials on science by the teacher during teaching science subject. The teachers are only the powerful agents for improving the quality of the student.

The other need of this study is to find out those new type of teaching learning materials in Science which are implementing / use in Govt. school or private school and they are easily available, low cost and student can make than himself.

An efficient science teacher always need to better learning of his subject so that the can give his best to his students. Teaching learning materials in Science helps a Science teacher in effective realization of his/her teaching objectively by calling upon the auditory and visual sense of his students.

Key words : Teaching learning, Learning Materials, Teaching learning materials in science.

INTRODUCTION

"We lay great emphasis on making science an important element in school curriculum. We, therefore, recommended that Science and Mathematics should be taught on a compulsory basis to all pupils as a part of general education during the first ten years of schooling".

- Education Commission : 1964-66

Rapid progress in scientific pursue of things has revolutionized all our efforts including the matter of research and development related to pedagogic intervention. Under the current phase of development, pedagogy is not more confined to the traditional practice or verbal sharing of knowledge within the four walls of the classroom.

The ever expanding horizon of knowledge today is so much diversified that it now demands our consistent effort to evolve scientific teaching methods with objectivity as their foci. Considering from this view point it is held that all forms of pedagogic interventions to cater school curricula must invariably involve the simultaneous use of scientific equipments called Teaching aids.

The advancement of science and technology simply surprise us when one thinks respectively the devices of teaching in the past. So far as the history speaks, it was great educationist "Pestalozzi" who, perhaps for the first time introduced aids in teaching. In his Yverden school, known as "Mecca of education", he set modern methods of teaching science with experiments. He emphasized activity in learning. He categorically told teachers to bring models, pictures, charts even live objects to classroom for direct experience of pupils. What

"Roseau" thought of philosophy. "Pestalozzi" put them into practice with his own innovations, ideas and erudition.

Use of teaching aids during teaching-learning process largely depends upon the teachers, upon how he internalizes the subject matter to be taught, upon how wants to help his pupils for mental imaging of facts and upon how he wishes to convince his students. Therefore scientific selections to teaching aids also as vital as using them scientifically.

Instructional aids or teaching learning materials are the most effective variety of aids widely accepted both by the teachers and students, societies across the globe. The evolution of television and computer has further diversified the utilities of teaching learning far and wide without being deviated from the primary focus of objectivity. Today utilization of teaching learning materials in dissemination knowledge either inside the classroom or beyond that is so much wide spread and versatile that the other form of indoor teaching learning materials are slowly nearing a towards their usual and virtual extinction.

IMPORTANCE OF TEACHING LEARNING MATERIALS IN SCIENCE

Teaching is purely an intellectual activity which is stimulated by our senses, i.e, by eye, ear, nose, tongue and skin which are the gateways of knowledge and experience. The primary burden of establishing all round contact between an individual and his surroundings is shouldered by the senses. Therefore teaching may also be described as wholesome intellectual activity of sense perception.

Sense perception is nothing but activating an individual's learning capability and visual potency and then remix both for mental imaging of a given fact. In this context, the physical apparatus which impress our sense perception and help to conclude our introspective enquiries are called Teaching Learning Materials.

Every moment we are in constant interaction with the physical, biological and social environments and gained varieties of experiences. learning through the sense organs. So we learn many things through first hand or direct experiences. Learning through direct experience becomes permanent, that is one remembers it throughout his or her life.

Thus Teaching Learning Materials in Science functional sense may be defined as the instructional material, equipment or devices which help a teacher in effective realization of his teaching objectively by calling upon the auditory and visual senses of his students.

Today we see that the teaching learning materials have dominated the scenario of teaching learning process so much that we come across almost every day the school broadcasting programme In the radio, the UGC programme and the NCERT school programme in the television. Now-a-days teaching is no more confined to the classroom, children are taken out in field trips to like sites, museum, zoo, factories, mines etc.

The other vital areas where use of such teaching learning materials find their importance are-

* Qualitative response to sensory perception of the pupils by fully or partially substituting the traditional practice of verbal teaching practice of verbal teaching.

* Liberation of pupils from the compulsion of utilizing maximum time for curricular activities.
* Elimination of psychological alienation of pupils from the subject matters of school curriculum because of boarding pedagogy like verbal teaching.
* Minimizing a difference among high, medium and low achievers in a particular class.

This is why it is saying that:

"if I listen, I forget,

if I see, I remember and

if I do, I understand".

The saying signifies that pupil excel in on opportunity of doing things for themselves because of proper sense perception, while only exhibition of display of things to them during teaching is skill productive, the so called chalk and talk method; proves to be no use at all, this is the important about teaching learning materials.

NEED AND IMPORTANCE OF TEACHING LEARNING MATERIALS IN TEACHING AT PRIMARY LEVEL:

Teaching Learning Materials to the teachers and the learners aims to provide necessary skills and knowledge along with the inculcation of proper interests and attitudes among them for the effective utilization of the audio-visual aid material and equipments in the process of teaching and learning. The need and importance of imparting Teaching Learning material education to the teachers as well as, students actually rest with the multimensional applicability and purposes that can be served through various types of Teaching Learning Materials.

1. Clarity of the subject matter

Teaching Learning Materials in Science are helpful in bringing clarity to the difficult and abstract concept and phenomena related to various branches of science. Instead of striving hard with the verbal experiences or explanations. If the teacher makes use of some appropriate aid material, he can make the things more clear and meaningful to his students regarding any subject. For example, if while explaining the construction and working system of the cycle pump, water pump, eye, ear etc, a teacher makes use of some appropriate aid materials in the form of charts, models, photographs he can make the things more clear and meaningful to his students.

2. Helpful in the positive transfer of learning and training

What is learned by the students in different subjects at one time may be said to be meaningful only if it can be utilized by them in their inter-related concepts with other subjects or meeting their day to day needs and solving the problems of their life use of Teaching Learning Materials help in this direction by making possible the appropriate positive transfer to learning and training from one situation to another.

3. Effective use of Teaching Learning Material senses

In any scheme of teaching and learning the sensory impressions play the key role and that is why senses are usually termed as the gateway of knowledge. The use of teaching learning materials in the process of education provide valuable opportunities to the learners to make use of their five sense organs i.e., eye, ear, nose, tongue and skin for gaining valuable knowledge and information.

4. Helpful in developing interest and attention

Interest as well as an attention are said to be the key factors in the process of teaching and learning. Teaching Learning Materials help in removing the boredom and monotony of the classroom by adding variety to the classroom activities. They also prove a very good attention in catching device. The students take interest in listening and watching the things and events told that shows through these aids and in this way a suitable learning environment involving the interest and attention of the pupils can be properly created through the use of teaching learning materials.

5. A good substitute for direct experiences

The root of all understanding thinking and attitude formation lies in real experiences and that is why experience is said to be the greatest teacher. Out of the two types of experiences, direct and indirect, the former has no parallel. However, while teaching in the classroom it is not always possible to provide the first hand direct experiences to the students especially in the situations when the objects are too big, too small, too far in terms of distance or time, too fast or too slow to be captured for classroom study. In such a situation, Teaching Learning Materials provide a good substitute for real objects or phenomenon for gaining the meaningful experiences as realistic as possible.

6. Helpful in reducing evil effects of verbalism

Effective learning depends upon effective communications language may play a key part in such communication but may also generate some serious problems. Commenting upon the value and evil effects on this type of communication (verbalism).

The use of Teaching Learning Materials besides the use of printed and spoken word may help the teacher of various subjects in such a situation by providing an additional or alternative media for effective communication with his students.

7. Working as a good motivating force

Children are quite active by nature and enjoy listening and observing the things and phenomena. Use of audio-visual aid material attracts them well to the classroom activities, satisfies the needs of their urges, instincts, basic and motivates and thus prove a potent motivating force to energize their learning behavior.

8. Helpful in proving adequate impressions or images

Every experience gained at the time of learning leaves behind an image or impression in the minds of learners. The effectiveness of the learning depends upon the quality of this image or impression Teaching Learning Materials in Science provide such experiences that leave behind a permanent mark in the form of adequate impressions or image and thus aid to good retention and relatively permanent learning.

9. Providing reinforcement to the learners

Teaching Learning Materials in Science prove effective reinforcing agent by increasing the probability of the reoccurrence of the responses associated with them. The experiences are so much connected and associated with the relevant used aids that the learner get sufficient reinforcement for keeping these experiences remembered for a long time. Moreover the aids like programme learning material, teaching machines, computer assisted instructions etc, are known for their role in providing adequate well controlled reinforcement to the learner in his attempts of self learning or auto

instruction.

10. Helpful in meeting the needs of exceptional

The use of audio-visual aids in Science subject may help the teacher in meeting out of the special learning requirement of the exceptional children. For example, the children with learning difficulties may be helped through the use of various relevant visual aid material. Similarly those suffering from the visual difficulties may be helped through. The slow learners and mentally restarted may be given concrete experiences through use of some well illustrated, simple and meaningful aid material and gifted or genius may be elevated to a position of higher cognitive thinking and functioning by the use of appropriate teaching learning aids.

11. Helpful in the development of mental faculties

Lecturing and adoption of text book method in the class by the teacher can't help in the proper development of the intellectual faculties of the children. It can merely lead to role memorization on the part of the students without having any insight and understanding of the things and events. On the other hand the use.

Teaching Learning Material is capable of providing such learning opportunities which may stir the imagination, thinking process and reasoning power of the students. It may also call for the originality, creativity, inventiveness and other higher mental activities on the part of the students and thus they help in the nourishment and development of the mental faculties of the students of elementary level.

12. Helpful for appropriate classroom interaction and educational environment

The success of a teaching learning process depends upon the healthy classroom interaction and proper educational environment of the

class. Teaching Learning Materials, through its wide variety of stimuli, provision of active participation and adequate experiences prove helpful in the establishment of proper educational environment and healthy classroom interaction for the effective realization of the teaching learning objectives.

13. Helpful in solving the problem of indiscipline

The problem of classroom indiscipline in many ways has its roots in the uncongenial and unhealthy classroom environment. In case the pupils are kept passive recipients of the knowledge and are bombarded through extreme verbalism, they are bound to get bored, fatigued or lose interest in learning. Many of these in such a situation may generate indiscipline in the classroom. With the Teaching Learning Materials, there is very little scope left for the creation of a passive dull and uninteresting environment in the classroom. Moreover it provides a variety creative channels for the students to utilize their tremendous energy which might be otherwise use for making mischief and creating indiscipline in the classroom.

14. Helpful in developing inquiry habit and scientific attitude

Use of the Teaching Learning Materials in the process of teaching and learning may help the teachers of elementary level In developing inquiry habit and cultivating scientific attitude among his students. As a result they no longer remain a passive listener and do not believe merely in here saying but try to observe and experiments these facts through there own generalizations reached through the use of Teaching Learning Materials.

15. Helpful in the satisfaction of individual differences

Wide individual differences are found among the learners of primary level in terms of their abilities to learn and the methods of learning. Some are ear minded, some can learn easily through

imitation, while other prefers self attempts and self doing. Consequently there arises a great need of meeting such varying requirements of the learner. Teaching Learning Material may help the teacher at elementary level in this situation by satisfying the requirement of the learner. Concerning individual differences among the different types of pupils.

16. Providing opportunity for the use of progressive methods and techniques

All the progressive methods and techniques used for teaching the various subjects discourage cramming and inactiveness on the part of the students of primary level. These are based on the psychological requirements of the learner and lay emphasis on the active participation of the students in the teaching learning process The use of Teaching Learning Materials is not only helpful in creating suitable environment for the introduction of the progressive methods and techniques but also helps in making the proper and effective use of these methods and techniques for realizing the relevant teaching learning objectives.

17. Helpful in making Use of maximums of teaching

Maxims of teaching like simple to complex, concrete to abstract known to unknown, learning by doing etc help in improving the process and products of the teaching learning process. The use of teaching learning materials facilities and improves the possibilities of making use of all such maxims by the teacher of elementary level in their teaching task.

CLASSIFICATION OF INSTRUCTIONAL AIDS FOR TEACHING LEARNING MATERIALS IN SCIENCE

Instructional Technology refers to the systematic use of category of Instructional material. As a substitute of first hand direct

experience, we make use of a wide variety of instructional aids materials and equipments in the field of education. For gaining insight of these aids and equipments they may be classified in as given below.

The First Approach

(i) Visual Aids

In this category we may include those aids which call upon the visual senses and thus help the learners to learn through viewing. For the sake of convenience this category may be further subdivided in following categories.

(ii) Projected Aids

Under the projection aid category we include all such visual aids, materials and equipments that can be utilised for gaining information about an object or event by getting it projected on a screen.

(iii) Non-Projected Aids

Under the non projective and category we include such visual aid materials and equipments that help us in learning directly by calling on our visual senses without being necessarily projective the related objects and events on same screen. For examples of such aids are chalkboard, feltboard, pictures, charts photographs, posters, maps, globes, models, specimen and textbook illustrations etc.

STATEMENTOF THE PROBLEM

"Use of Teaching Learning Materials in Science at Upper Primary school in Mandleshwar, Khargone (M.P.) An Analysis".

5.3 OBJECTIVES OF THE STUDY

1) To study the view of teachers of Govt. schools and private schools regarding the teaching learning materials in Science.

2) To findout the problems faced by the teachers of Govt. Schools and private schools related to teaching learning materials in Science.

3) To study the viewpoint of students regarding the availability and use of teaching learning materials in Science.

SCOPE OF THE STUDY

By the term scope means the breadth or comprehensiveness, variety to any extent of learning experience provided by the study of a particular subject. The object of the project is about a ""Use of Teaching Learning Materials in Science at Upper Primary school in Mandleshwar, Khargone (M.P.): An Analysis".

While taking such a project basic intention of the researcher is to assess the methodology of teaching science subjects at upper primary level.

The city Mandleshwar, Khargone is having numerous upper primary schools and serving minimum number of school which are readily selected, the investigator could generalize the findings of the whole city with regard to the use of instructional aids or Teaching Learning Materials in teaching learning process.

Thus this research project has been confined to the survey of one city only. The scope would have been wider if the researcher would has undertaken the project of the survey of all the primary school not selected number as the researcher has done at Mandleshwar, Khargone (M.P.).

As it is not possible on the part of the research to collect informations from all the schools within a short period, he has selected 2 Government and 2 Private schools of Mandleshwar,

Khargone (M.P.). Sufficient care has been taken to reach the school to know the present status of teaching in Science with Teaching Learning Materials and their effectiveness.

METHODOLOGY

Method

"Method of study" plays an important role in any research work. The suitability of the method to be used in a particular study is of the almost important and must be determined in the first instance. Good points out the method that are adopt to study a particular problem determines in a large measure the result obtained.

Procedure of the Study

The researcher had adopted the "survey method" to collect the information regarding the facilities of teaching learning material at upper primary level in Mandleshwar, Khargone of Madhya Pradesh, especially with reference to subject teacher and students.

The survey method is an important type of study. It must not be confused with the more clerical routine of gathering and tabulating figure. It involves a clearly defined problem and definite objectives. It requires expert, cognitive, planning, careful analysis and interpretation of the data gathered and logical and skillful reporting of the finding.

The survey methods gathers data from a relatively large number of cases at a particular time it is not concerned with characteristics of individuals as individuals. It is concerned with the generalized states that result when data are abstracted from a number of individual cases it is essentially cross sectional.

Sample

The small representative proportion of the population selected for observation and analysis is called sample. By observing the characteristics of the population selected i.e., sample one can make certain inference about the characteristics of the population from which it is drawn. Contrary to some popular opinion, samples are not selected haphazardly, they are chosen randomly in a systematic way, so that chance or the operation of probability can be utilized.

The sample of present study consist of 120 students reading in the class VI, VII & VIII and 20 teachers teaching science subject for same classes had taken from the 2 central government schools and 2 private schools of Mandleshwar, Khargone (M.P.).

Tools Used

Questionnaire administered personally to groups of individuals have many advantages. The availability of number of respondents in one place makes possible on economy of time and expanse and provides high proportion of usable responses.

For the present study investigator used the following tools.

(i) One sets of questionnaire containing 20 items respectively for the teachers.

(ii) One sets of questionnaire containing 20 items respectively for the teachers.

(iii) An interview schedule to collect the first hand information from the teacher.

The questionnaire started with labelled blanks for name, sex, educational qualification, work experience and other for the necessary background information. The set of questionnaire for both the teachers

and the students included the items on the availability and use of Teaching Learning Materials. The questionnaire for both the teachers and the students included general questions about the effectiveness of Teaching Learning Materials, each question contained two alternative responses i.e. yes or no.

There were no fixed time limit for administering the questionnaire.

Collection of Data

The data was collected through the questionnaire and interview schedule.

The investigator has adopted survey method to assess the facilities of the Teaching Learning Materials available and used in teaching various subjects in different upper primary school of Mandleshwar, Khargone (M.P.).

From the Student

Considering from the point of view the researcher has distributed 120 questionnaires to the students of class VI, VII and VIII of 2 Government schools and 2 Private Schools at upper primary levels of Mandleshwar, Khargone (M.P.) and had face to face discussion and interview with them.

From the Teacher

The investigator was fortune enough in meeting some of the teachers of different upper primary schools of Mandleshwar, Khargone and discussing with them about the facilities and utilization of Teaching Learning Materials in science subject in their upper primary schools. The investigator went to the primary school of Mandleshwar, Khargone and handed over the questionnaires to the science teachers of these schools.

Statistical Techniques Used

In order to analysis and interpretation of the data obtained by administering the two questionnaires from the teachers and the students. The investigator has applied the percentage analysis technique employed and the results are presented in chapter.

FUNCTIONS OF INSTRUCTIONAL AIDS

The following are the functions performed by Instructional aids in the teaching, learning process.

(i) These aids help children to form clear and accurate images about concepts, processes, events and phenomena in life.

(ii) They help to reduce meaningless and excessive verbalism on the part of the teacher.

(iii) These aids help children for better acquisition and longer retention of ideas.

(iv) They help to relate abstract concepts with concrete experiences.

(v) They stimulate children's interest towards the learning task, imagination of events, the power of observation and motivation for further knowledge.

(vi) They help to elicit pupil's participation in the teaching-learning process and encourage them to involve themselves in the preparation and use of various aids.

(vii) They provide direct first hand and vicarious experiences about people, places, objects and happening.

(viii) They help children with special needs to move fast In their attempt to learn the task.

(ix) Use of instructional aids leads to introducing varieties in the teaching, learning process, makes it joyful and thus break up the monitory of the classroom instruction.

(x) They emphasize the maxims of teaching such as proceeding from known to unknown, simple to complex and concrete to abstract.

(xi) They clarify the doubts and can reach a large number of students within a short time.

(xii) They add beauty and colour to the classroom instruction.

(xiii) They ensure a healthy classroom interaction.

(xiv) They save time and energy for the teacher and the students.

(xv) They give vividness to the teaching learning situation in the classroom.

Teaching Learning Materials in Science can not replace the teacher. They are not the substitutes for the teacher. The importance of the instructional aids lies in the fact that they supplements the teacher's word in making, learning, meaningful, joyful and efficient, in ensuring longer retention of facts, learnt and making reproduction or output quicker clear and accurate.

NEED OF THE STUDY

The use of Instructional aids technology are justified according to the psychology of learning knowledge is synonymies with gathering of knowledge, which cannot be gathered through one mean. The present status of application of information through instructional aids are of great importance in the teaching of the various subjects.

Sensory experience forms the foundation for intellectual activity, sensory aids affect an economy of time in learning. Teaching Learning Materials used in education to the teachers and learner aims to provide necessary skills and knowledge along with collection of proper interest and attitude among them for effective utilization of the Instructional aid material and equipment in the process of teaching and learning. Instructional aids help children to gain actual meanings to combat the tendency of abstractness and to stimulate current thinking. Instructional aids effectively help both the teacher and the student in their teaching learning process.

Commenting on that the use of Instructional aids Kothari Commission (1964-66) observed that

"It should needed bring about an educational revolution in the country. It further stated that the supply of teaching aids to every school was for the improvement of the quality of teaching".

NPE (The National Policy on Education) 1986 with modifications in 1992 has laid great stress on the use of instructional aids to make teaching learning most effective and realistic. In order to implement this suggestion, teaching aids are bring supplied to elementary schools and mainly to the primary schools under operation blackboard and science teaching programme.

The mind of young children are more accustomed to direct learning experiences. So the gaining of knowledge through the teaching learning Materials play a key role in solving their queries. Although numerous studies have been conducted on the affect of using instructional aids, not much emphasis has been given to the area which instructional aids deserve in the modern world of teaching learning in the primary schools in Indian context.

ANALYSIS AND INTERPRETATION OF DATA

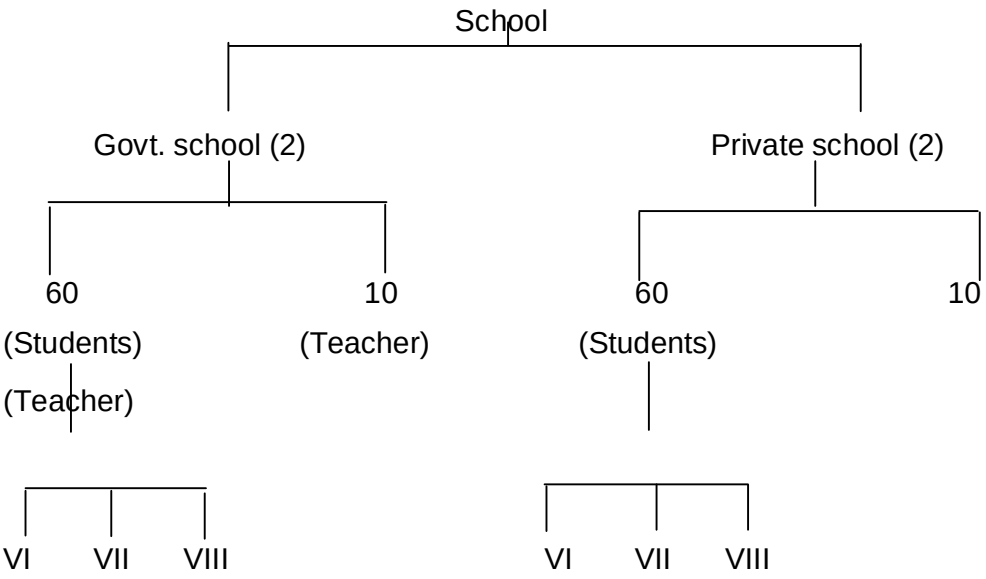
Research data become meaningful in the process of being analyzed and interpreted. Both the process go together because analysis is worthless without interpretations and interpretation is impossible without analysis.

Idea that will come to one's mind should be manifested in action. Before materializing an action one has to make the analysis of the subject through data. Analysis of data means studying the tabulated materials in order to determine inherent facts of factors into simple parts and putting the parts together in new arrangement for the purpose of interpretation.

The process of interpretation is essentially one of the ways of starting what the results and findings reveal? What are their significance? What is the answer to the original problem?

Interpretation is thus by no means a mechanical process. It calls for a critical examination of the results of one's analysis in the light of all the limitation of data gathering.

In this chapter the data collected from 2 Govt. schools (10 teachers and 60 students from class VI, VII & VIII) and 2 private schools (10 teachers and 60 students from class VI, VII & VIII) have been classified and formulated to facilitate smooth analysis. Analysis and interpretation have been simultaneously made. While interpreting the findings the researcher has taken precautions to make it as objective as possible.



4.1 Analysis of the Questionnaire

The questionnaire were administered to 2 Govt. schools (10 teachers and 60 students from class VI, VII & VIII) and 2 private schools (10 teachers and 60 students from class VI, VII & VIII) of Mandleshwar, Khargone (M.P.).

Opinion of teachers regarding availability and use of T.L.M. in Science.

1. Use of T.L.M. in Science during teaching Science is an official practice of all the 20 teachers of both Govt. and private schools.
2. Text book, blackboard, science picture books, charts, diagrams, projectors etc. are the major form of indoor teaching learning materials in science used by the teachers inside the classroom.
3. Low cost teaching learning materials in science like science picture books, charts, diagrams are used by the teachers of Govt. and private schools.

4. Only one Govt. school possesses a projector that is used by the teachers to taught students where as in private school, it is available but its use is not up to the mark.

5. In private schools 80% teachers use the T.L.M. in science subject during teaching where as only 60% teachers use T.L.M. during science teaching in Govt. schools.

6. Govt. school possess around 70% readymade and appropriate T.L.M. in science where as 80% of T.L.M. in science has been recorded in private schools.

7. Grant of T.L.M. in science for Govt. schools particularly in science subject is inadequate and it is not enough to meet the requirement. The equipment resource in these schools continue to be poor even after proper utility of grant is in force.

8. Use of scientific equipments during teaching leaves more impact on the learners than the result by the use of traditional aids like chalk, duster, black board etc.

9. Majority (100%) of teachers both Govt. and private schools are of the firm conviction that teaching science subject with the help of T.L.M. is more productive, effective, interesting, encouraging and easier than teaching without any aids.

10. Use of teaching learning materials in Science by teachers not only effectuate teaching methods but also increase the pupils enthusiasm to concentrate over study in the class.

11. Teaching learning materials in science make the teaching activity recreational for the learners, which would otherwise burden and boring to them.

12. Use of teaching learning materials in Science through diagram, charts, maps etc. must be used by the teachers increasingly to make the teaching of science subject more effective and receptive.

13. Following are the other usefulness of teaching learning materials in science.

- Live delivery of central idea, knowledge to the learners.
- Enhancing teaching learning process.
- Help teacher to teach systematically without any overlook.
- Help the teacher to motivate learners and raise their enthusiasm to a required level.
- Make the study atmosphere of the class informal and enjoyable rather than strenuous.

It is clear from the above discussion that teaching learning materials in science play a very important and vital role in teaching learning process. But such facilities are not adequate in some of the govt. schools investigated.

Opinion of students regarding availability and use of T.L.M. in Science.

Looking at the responses of the students on the basis of equity about T.L.M. in science it is found that 43.3% students of Govt. school confirm that their science teacher use T.L.M. in science during teaching. While 65% students of private school confirm that their teacher uses T.L.M. in Science during teaching. It was hypothetically assumed that various T.L.M. in science make teaching real and clear to the students. This assumption has been corroborated by the pupils responses during interrogation. 60% students of Govt. school and 71.7% students of private school endorse that T.L.M. in science inspire them to study science. The

same percentage of students endorse that T.L.M. in science activate their science study.

When asked about the availability of diagrams, charts, models etc. 75% students of Govt. school and 86.7% students of private school have opined that their teachers use these T.L.M. during teaching science subject but on its regular use there is a far gap between Govt. and private school. Only 65% students of Govt. school opined that their science teacher regularly use such T.L.M. while 70% students of private school opined that their teacher regularly use T.L.M. in Science during science teaching.

On the availability of projectors and its use in Science, it is assumed that in private school it is used much more than that of Govt. school. Extra science smart class periods are arranged in the private schools but in the Govt. schools no such periods are arranged for the upper primary students. It is only arranged for the secondary and senior secondary classes.

On the use of science picture book 91.7% student of Govt. school opined positively while 100% students of private school opined positively. It shows that in private schools science picture books are used very much. But on its effectiveness in science teaching, there is a difference in the opinion of both Govt. school (51.7%) and private school (61.7%) students.

On a question about the use of science practical laboratories 65% students of Govt. and 68.3% students of private school opined that their teachers use the practical laboratories during science teaching but not regularly. It depends on the need and demand of the topic.

Teaching aids, especially audio-visual aids, play a major role to provide first hand knowledge to the learners during classroom teaching. Learners enthusiasm is activated by the use of and application of teaching

aid. This is essential during classroom teaching because it increase the enthusiasm about the topic and pupils to become receptive, contemplative and discursive.

Teaching aids helps pupils to comprehend on their own misfires that occur beyond their very senses. Thus their creativity is enhanced by the continuous application of those aids in understanding things.

Teaching aids not only supplement the process of understanding and comprehending but also favor pupils in developing innovative skills for learning, reading, willing and speaking objectively. Therefore, the interest, attitude and aptitude of pupils are modified objectively by such material equipments.

The above discussion clearly indicates the positive role of teaching learning materials in science. But so far, science study is concerned with the use of such teaching learning materials in science is not become more extensive. Therefore, school need to cater this deficiency in order to make the teaching of science effective and reliable for every learner.

FINDINGS OF THE STUDY

The researcher has collected data from 2 Govt. and 2 Private School at upper primary level at Mandleshwar, Khargone (M.P.) through questionnaire and interpreted them in the Chapter-IV. On the basis of interpretation it was found that position of T.L.M. in science is not satisfactory .

1. Both Govt. and Private Schools posses good number of T.L.M. in Science but they do not use it properly.
2. Teachers of Science subject do not use T.L.M. in their subjects regularly.

3. Only one Govt. school has smart class room facility but there also science subject are not taught through smart classes. Where as Private schools possess smart class room but they use it only for Secondary and Hir. Sec. classes.

4. Some T.L.M. in Science are expensive .The Govt. Schools can not afford to purchase many T.L.M. due to minimum availability of funds.

5. In absence of trained personnel, the equipment and instruments available in Science are not properly used and the instruments are getting damaged.

6. Accommodation is the great need of most of the Govt. schools and also some private schools.

7. There should be need of training of the teachers on Teaching Learning Materials in Science subject.

8. Though the teachers have realized the utility and effectiveness of Teaching Learning Materials in Science but sincere effort is to be taken to plan their units with proper use of Teaching Learning Materials.

9. In comparison to Government schools and Private schools researcher found that the Teaching Learning Materials in Science is mainly used in private schools.

10. In Government schools and Private schools, the Science laboratories are not use properly by the Science teachers.

11. No special grant is available in Government schools for Teaching Learning Materials in Science whereas a good amount is spent every year in private schools to purchase Teaching Learning Materials in Science in Science.

12. Government schools can use modern technology regarding Teaching Learning Materials in Science if they get monetary support from the Government.

Recommendations

After a detail study on the status of Teaching Learning Materials in Science at upper primary level in Mandleshwar, Khargone (M.P.). The following measures are recommended for its improvement.

1. Every school must have Teaching Learning Materials room. The student should be encouraged to take interest in making of Teaching Learning Material in Science subject.
2. Every school should Endeavour to maintain a Teaching Learning Material room displaying at least objects, specimens available in the surrounding and students should be encourage to collect materials/ specimens of Science from the surrounding.
3. The science teachers need to provided with a handbook of organization of Teaching Learning activities in Science.
4. In service training courses on Teaching Learning Materials should be organize after every three years to facilitate the teacher with new techniques and teaching skills.
5. Special room with necessary kit of Teaching Learning Material in Science should be maintain with coordinator in charge of the section.
6. Special grant in Teaching Learning Materials in Science should be released for the purchasing of materials.

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