

A CRITICAL STUDY OF THE PROBLEMS OF SLOW-LEARNERS IN MATHEMATICS OF STANDARDS VIII AND IX

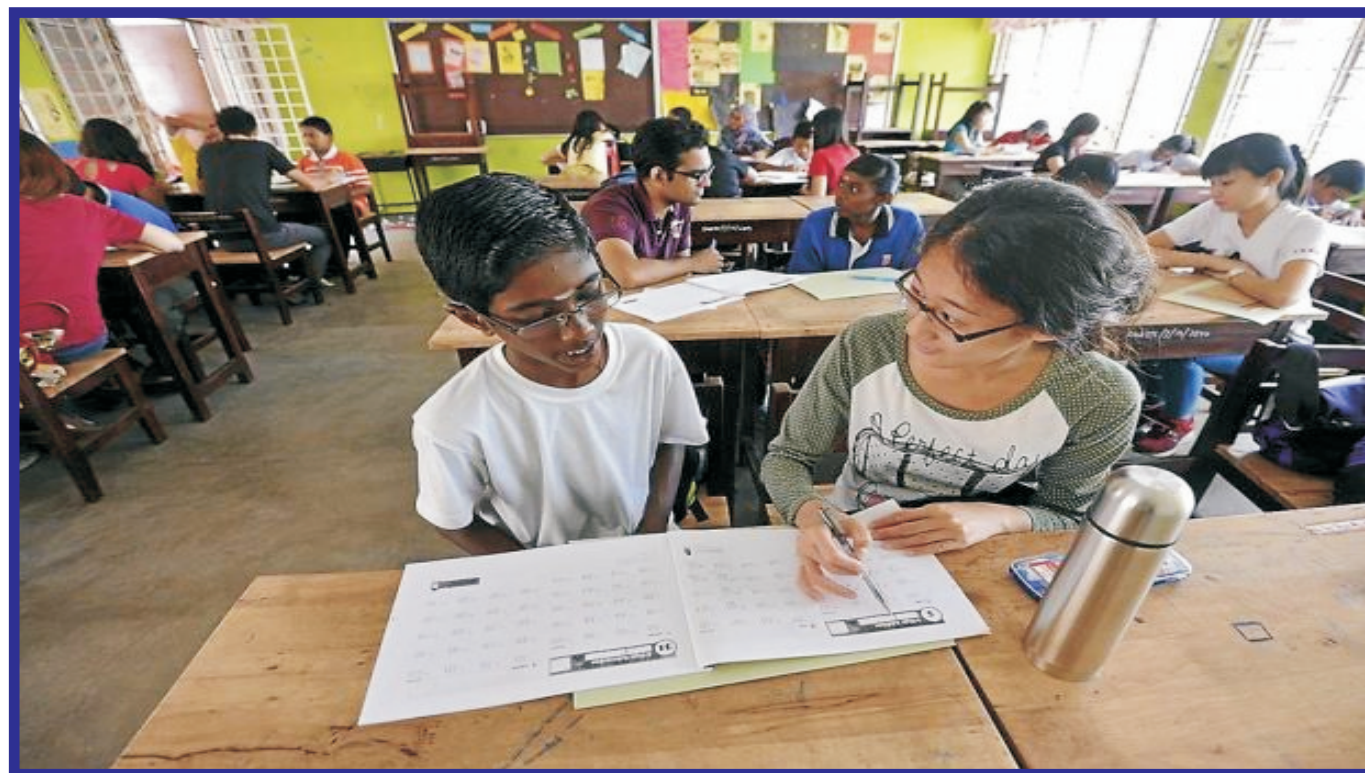
Abstract:-

The way of life is such that the weak and less able persons have to withdraw sooner or later from the struggle of life. The same is also the fate of slow learner child, in many countries. These days even nursery schools hold tests and interviews for first admissions and a slow learner child stands no chance for admissions. Where should he or she go for education? Is the system of formal education not for them? Is the entire galaxy of teachers only for abler student? Has the science of education no provision for educating slow learners?



Bhoi Rajendra Ramchandra

Senior Lecturer , District Institute of Education and Training
(D.I.E.T.), Kolhapur.



Bhoi Rajendra Ramchandra

Senior Lecturer , District Institute of
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Training (D.I.E.T.), Kolhapur.

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INTRODUCTION

A ‘Nothing for Nothing’ is the rule of the world. For every hope one entertains, one has task to perform. All parents hope for educational achievement of their child as today education is directly related with employment and better living and independence. This hope makes them committed to their child’s education. The stakes are higher and the task is more onerous (burdensome) in the case of a slow-learner. Whatever price, is paid for educational investment, its benefit will reap later. A child does not unfold just naturally like a flower. He unfolds when he is being developed by a sound education.

A child whom is unable to succeed in normal academic situation on average rate is a slow-learner. Slow learners are vulnerable section of the student community. Their educational achievement is generally lower than the average and the bright student in the class. However, they are not mentally retarded so as to require separate special schooling. The reasons for the poor academic performance of slow learners are many and complex. But one fact that is evident is that the average students being the largest group in any classroom based on Normal Probability Curve, the instructions given by the traditional method caters generally to the average learners and to the bright or above average learners and the slow learners continue to perform at the same level even when they are promoted to higher standards due to the failure of our educational system to adopt alternative methods to enhance the educational performance of the slow learners within the school system.

UNESCO’s declaration of 1959 is relevant in this context. Declaration of the Rights of the child (1959).

The child who is physically mentally or socially handicapped shall be given the special treatment, education and care required by his particular condition.

-Principle 5 from Preamble of
Declaration of the Rights of
the Child by UNESCO.

Mathematics is a compulsory component of school education. Every school Childs up to standard X require to master the basics of mathematics to succeed later in life as a successful adult both in his/her career and personal life.

Slow learners can be identified right from standard I to standard X. There is need to tackle their problems right from low-level. The methods of approach to enhance the educational achievement of slow learners varies at different stages of intellectual or cognitive development theory propounded by Jean Piaget has 45 stages of cognitive development in humans.

- 1.Sensory - motor stage- birth to 2 years.
- 2.Pre-operational stage- 2 years to 7 years.
- 3.Concrete operational stage- 7+ years to 11+ years.
- 4.Formal operational stage – 7+ years to 14+ years onwards.

The formal operational stage of cognitive development, occurs during Adolescence according to Piaget and is the most crucial and important stage in human being where the mental capabilities can be developed to maximum level. The mind can be trained to solve problems. If the education system fails to perform and then loss to mankind is insurmountable. The students in the age group 11+ to 14+ years in standard VII, VIII, IX and X respectively.

The slow learners who are studying in these standards should not be neglected. Something has to be done either as a part of the educational system within the curriculum set-up or some alternate method to traditional instruction has to be devised and the problem eliminated.

The first and the most difficult task is to identify the slow-learners and study their varied problems. Once this task is done, appropriate programs may be suggested based on the results of the study to the parents, teachers and students so that the slow-learners performance may be enhanced and they will be able to master the essentials of mathematics required for their standard. Hence this study is being undertaken, for a selected group of VIII and IX standard students.

STATEMENT OF THE PROBLEM

A CRITICAL STUDY OF THE PROBLEMS OF SLOW LEARNERS IN MATHEMATICS OF STANDARDS VIII AND IX IN KOLHAPUR CITY.

DEFINITION OF TERMS

Critical Study

For the purpose of this study ‘Critical’ means a minute, careful identification and analysis of the problems of slow learner.

Slow Learner

Dictionary Meaning

A term often used rather loosely for any child whose attainments have always fallen noticeably behind those of other children of the same age, without any implication as to what might be thought to be the cause (e.g. deprived background, brain-damage, slow-maturation, lack of motivation, etc.) Or whether the child might be enabled to speed up or catch up.

Sometimes however, the term is used to indicate children who are not only expected to remain slow learners but also to be unable ever to learn as much as others. Some people would even restrict the term to pupils who are Educationally Subnormal.

A Dictionary of Education(1981)
Dreck Rowntree
Harper and Row Publishers, London

Operational Definition

For the purpose of this study:

A slow learning child is one who scores below the normal or average on a standard group intelligent test, but who, on the basis of IQ. And other established criteria are not retarded to the degree that is a candidate for separate schooling.

Further, from among the above type of students, those who have scored less than the average in the class in the previous annual examination in Mathematics.

Mathematics

Dictionary Meaning

An approach to training through the systematic analysis of skills using REINFORCEMENT theory. Pioneered by US psychologist, Tom Gilbert, it made a considerable contribution to the methodology of programmed learning and educational technology during the 1960s.

Operational Definition

The Mathematics content in the Text-book of VIII standard prescribed by Maharashtra State Bureau of Text Book Production and Curriculum Research, Pune and State Text Book of IX standard prescribed by Board of Secondary and Higher Secondary Education, Pune.

Standard VIII and IX

Operational Definition

Standard VIII and IX of Marathi medium schools following the syllabus prescribed by Maharashtra State Bureau of Text Book production and curriculum research, pune and state Text Book of IX standard prescribed by board of secondary and higher secondary education, Pune.

Students of the standards VIII and IX fall in the age group of 12+ and 13+ years respectively and according to piaget's theory of cognitive development, they are expected to be in the formal operational stage of cognitive development.

Kolhapur City :

One of the 35 districts, Kolhapur is city from Maharashtra state. It is situated in west Maharashtra on the Bank of "Panchganga" river. Its graphical location is 150 42'- East longitude. Its height from sea level is 650 meters and its total geographic area is 66.82 square kilometer. The borders of the city are as follows:

SIGNIFICANCE OF THE STUDY

- 1.This study scope covers Educational Psychology and Mathematics No research of such nature has been undertaken earlier anywhere including India as far as the knowledge of the investigator goes and there is an urgent need to conduct such research to upgrade the achievement of student in Mathematics so that they will be prepared to perform better in the Standard X later on.
- 2.Slow learners are very much inspirable for classroom instructions. However their special needs have to be catered to which cannot be easily done in the regular classroom in schools.

3. Mathematics subject is a compulsory component of the school education which every child has to master and the programmes suggested as a result of the study will help the slow learners for bettering their achievements. It will act as a motivator for better and faster learning which the need of the day.
4. This study will help to draw the attention of teachers and school authorities to the needs of the slow learners and assist the school to help their students to perform better in Mathematics.
5. Slow learners are a vulnerable section in the school educational system and this study will help such students of society.

OBJECTIVES OF THE STUDY

1. To identify slow learners.
2. To find out the problems of slow learners in Mathematics.
3. To analyze the Mathematics text book of standard VIII and IX to suggest appropriate programmes to eliminate the problems of slow learners in learning Mathematics.
4. To make appropriate suggestions to schools, teachers, parents and students based on the results of the study.

Delimitations of the study

1. The sample is drawn from Marathi medium schools in Kolhapur city.
2. Study is limited to the schools Mathematics text books prescribed by Maharashtra State Government.

RESEARCH DESIGN

This is descriptive research. There are various methods of research that is historical, experimental, case study, survey etc. used in social sciences and education, for present study survey method was used for collection of the required data.

SAMPLE DESIGN

In Kolhapur city there are 72 high schools. Among that ten high schools are English medium, One Urdu medium school and one Gujarathi medium. Excluding English medium school Urdu medium school and Gujrathi medium school there are 65 Marathi medium schools. Random sampling design was used for selection of schools, by lottery method. Randomly 20% of the Marathi medium high schools were selected that is thirteen schools. Random sampling design was used for section of standard VIII and one section of standard IX standards from each school. From each school randomly one section of standard VIII and one section of standard IX were selected and group Intelligence test was administered. In some schools two sections of standard VIII and two sections of standard IX were selected as there were no slow learners in first section. Finally from each school for standard VII a sample of 1 to 10 students was drawn. Similarly for standard IX a sample of about 5 to 10 students was drawn. Again on the basis of school record of Mathematics subject form among them those who have scored less than the average in the class in annual examination in Mathematics in previous year, were selected as slow learners in Mathematics.

NATURE OF SUBJECT SAMPLE

The students whose I.Q. is in between 60 to 90 were selected as slow learners again among them who score less than average marks in mathematics in class in previous year. Annual examination those were selected as slow learners in Mathematics.

Date regarding problems in learning mathematics was collected by using questionnaire and interview.

TOOLS USED FOR RESSEARCH

1. Test:

A standardized group intelligence test was selected that is "A group test of intelligence" for children by Dr. R. K Tendon and administered.

2. School Record:

Annual examination marks in Mathematics of previous year.

3. Questionnaire for Slow Learners:

The investigator prepared the questionnaire for slow learners in Mathematics in consultation with subject experts, school head masters, educational experts and educational administrator.

At taking into consideration that this questionnaire is for the slow learners, both open and closed ended questions were included in questionnaire to collect the real information.

4. Interview of slow Learners:

To know the more about slow learners they were interviewed.
And investigator discuss with their teachers also.

PROCEDURE

To collect data from schools an authority letter was obtained from education department Shivaji University, Kolhapur and as the investigator was going to see the school record an authority letter from education officer of Z. P. Kolhapur was obtained.

The Head Master directed the investigator to the classroom with an Assistance teacher for help. The Group Intelligence test was administered under the supervision of investigator and one assistant teacher. Data was collected from standard VII and standard IX from each school.

The Group Intelligence test was administered in limited time schedule in the class room. Each student was provided with separate test booklet and separate answer sheet. The test was under the strict supervision of the researcher and one assistant teacher from respected school. The students were not allowed to consult and copy the answer one another. The papers were removed after certain time limit. It was found that the some students were able to answer all the questions within the given time limit but some students can't complete within the given time limit.

After the Group Intelligence test answer were checked and the students whose I. Q. is in between 60 to 90 were selected as slow learners.

To find out the slow learners in mathematics the investigators go through the school records. The slow learners in Mathematics the investigators go through the school records. The slow learners who score less than average marks in mathematics in the previous year annual exam were selected as slow learners in Mathematics.

The questionnaire was prepared in consultation with subject experts, Head Masters, Educational Experts and Educational administrator.

The questionnaire was divided into four parts-

- A) Personal Information
- B) Family Background
- C) About the School and School Environment
- D) About Subject Mathematics

There were 54 questions in questionnaire.

Every slow learner fills up questionnaire at his own. Here was no time limit to fill up questionnaire.

Investigator discussed with slow learners, their teachers and Head Masters about the problem of slow learners in Mathematics.

Thus the required data was collected. After that a letter to that effect was obtained from respective school.

STATISTICAL TECHNIQUES

Statistical techniques such as mean, S. D. and Graphs were used.

CONCLUSIONS

Today in the age of Information Technology and Globalization we cannot ignore a section of the students who are slow learners and from a part of school education system. They are the future citizens of the country.

The present day regular education system does not cater to this category of students. However, if the society has to prosper and the country has to progress, every school child without exception need to be trained and the slow learner need to be specially trained to become successful and productive individuals in the society.

The result drawn is further classified by following points.

1. Slow learners are basically average learners but to their personal problems and family problems and school problems they become slow learners.
2. Slow learners desire for higher education also but due to their academic backgrounders they do not go higher education.
3. Slow learners are not identified earlier i.e. at lower standards.
4. As slow learners are not identified at early stage, they are catered as average students
5. Sometimes slow learner is treated as morons and they are thrown out of education system.
6. As slow learners are promoted every year, their parents are unknown about their Childs real progress.
7. In schools there is no special provision or facilities for slow learners and they are catered as average students at that stage the progress of slow learners stop.
8. Slow learner's needs special and effective teaching methods.
9. Slow learners must cater differently than the average students.
10. Slow learners should provide extra teaching and personal guidance of mathematics.
11. It is possible to make them average students by the efforts of their parents, teacher, school and government.

RESULTS

1. It is possible to Find Out slow Learners in Mathematics Using Standardize Group Intelligence Test and School record.
2. The problems of slow learners in Mathematics are:
 - i. Difficulty level of some chapters in standard VIII and IX.
 - ii. Lack of basic knowledge from standard 1st to standard 4th.
 - iii. Poor economic condition of parents.
 - iv. Unavailability of study space at home.
 - v. Lack of educational environment in family.
 - vi. Wastage of time in TV watching and sports.
 - vii. Unavailability of guidance in study from family members.
 - viii. Home to school large distance.
 - ix. No use of teaching aids while teaching from school teachers.
 - x. Lack of personal guidance from teachers.
 - xi. No separate divisions for slow learners.
 - xii. Same teaching method for slow learners.
 - xiii. Unavailability of separate library in school.
 - xiv. They cannot perform basic mathematics like addition, subtraction, division, multiplication.
 - xv. Fear in mind that Mathematics is a difficult subject.
 - xvi. There are no much more teaching aids in mathematics teaching.
 - xvii. No extra guidance or extra classes of mathematics in school.
3. 18. Due to poor economic condition, slow learners cannot attend private coaching classes of Mathematics.
4. 19. There is no any special provision and facility for slow learners in schools.
5. 20. There are special needs of slow earners from family, from school, from teachers and these are not accomplished by them.
6. 21. According to slow learners difficult chapters in standard VIII are simultaneous Equations, Compound Interest, Volume and Surface Area, Quadratic Equations.
7. 22. According to slow learners difficult chapters in standard IX are polynomials, Factorization of Algebraic Expressions, Linear Equations in One Variable and Graphs and difficult chapter in stand IX are Parallelogram, Circle and Additional Properties of Triangles.

RECOMMENDATIONS

Suggestions to Schools

1. Slow learners should be identified at early stage i.e. in standard 4 to 7 in different subjects.
2. The information regarding academic backwardness should be given to parents of slow learners child.
3. The problems of slow learners should be find out.
The causes of slow learningness of child should be find out as early as possible.
4. The slow learning students must be separated form average students and they cater as per their special needs.
5. The facility of study room should made available for slow -learning students from school.

Suggestions to Teachers

1. Every class teacher must find out slow learning students and inform their parents.
2. Every subject teacher must find slow learning students in his related subject and find out its reason.
3. Subject teacher must cater these students as per their special needs other than average students.
4. The personal guidance should be given to slow-learning students.
5. The effective teaching methods should be used for slow learning students.
6. Effective teaching -aids should be used at the time of teaching for slow learners.
7. The chapters which are difficult for slow learners should be teach with proper attention.

Suggestions to Students

1. Slow learner child do not loose his confidence.
2. Slow learner students should obey the instructions of parents and teachers.
3. Minimizing T.V. watching they must give extra time for exercise of Mathematics.
4. They must practice simple arithmetic in free time.

Suggestions to Parents

1. After knowing their child is slow learning they must inspire their child for his progress
2. Parents must provide the study-space and related facility home.
3. Parent must help or keep watch on the study of slow learning child.
4. If possible extra teaching or private tuitions should be given to slow learning child.
5. Parent must visit the school time to know their Childs progress.
6. There should be communication between teachers and parents about the problems and progress of slow learning child.

SUGGESTIONS FOR FURTHER RESEARCH

Any investigation answers only a few questions it cannot be complete in itself. And, when the growth of experimental mind is being investigated, the conclusions drawn remain purely hypothetical so the need for further studies arise. Following are some of the suggestions for further research.

1. This study may be taken at lower levels i.e .at standard IV to standard VII
2. The study can be undertaken on large population .
3. The study can be undertaken in various subject i.e scienc English .
4. A study can be undertaken to study the effectiveness of Computer Assisted Learning on slow learners.
5. A study can be undertaken on separate divisions of average learners and slow learners.
6. A study can be undertaken to prepare a software for slow learners in Mathematics.

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