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## Clearing the Menace of “Hard-to-Reach” Students through Novel Strategies- A Myth or Reality

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### **Abstract:**

*“Teaching is reaching out the pupils to enrich”. But do the existing teachers competently reach all the three categories of pupils in the class i.e. gifted, average and dullards? To impart effective education to hard-to-reach students, teacher’s commitment and competence in implementation of novel strategies are vitally important. Investigator with utmost belief attempted to take up the challenging task. Scientific concepts are tough.*

*Their technical terminology obviously makes concept assimilation and learning complex. The strategy “Acquiring Simple Equivalent Technical Terminology” (A S E T T) reduces the difficulty. Students are accustomed to class notes. This “chewing-the cud” process hampers their thinking capacity and self-learning. “Inquiry Oriented Learning Strategy” (I O L S) helps to overcome and enhances inquisitiveness, exploring tendency and creativity in framing many questions by being thorough with the text. Thus these novel strategies are used to fight against the puzzling problems.*

### **1. Concept of the Problem**

Poor academic performance in the primary schools is really a burning problem. Teaching does not mean to increase rote memory among kids. But it should develop exact concept formation, learning ability and effective retentive power. Learning becomes spoon – feeding when the teacher gives the solutions to the problems “chewing the cud” when the teacher reproduces the product events the students from producing it. Thus learning in primary schools will be effective only if it is child – centered.

The problem of poor academic performance among the student of elementary schools is the most prominent area which has not received attention by the experts of education. Even this burning problem does not seem alarming. They do not feel it as tense as it was. Enrolment drive, back to school programme, attainment of total literacy is viewed more seriously than the scholastic performance of primary school children. Even after a stay of five years in schools, if children miserably fail to make a mark when coming out of them to seek admission into high schools, it will be the sorriest affair. Do they come up to the level of required expectations? If so, why high school teachers often grumble and complain about the performance and attempts put forth by primary school teacher? Statistics prove that standards of primary schools are baffling and need a special attention especially in non-language subjects i.e. mathematics and environmental studies 1&2. A detailed scan and an analytical probe into low standards reveal the following probable causes of the decline among primary school children.

Some parents and all average and weak students feel that their concerned teacher should dictate questions and answers and then students in turn memorize them and produce in tests. Real teaching is essentially meant to make pupils learn at their own accord, in their relative pace and not to develop rote memory habits among them. Routine teaching does not promote thinking capacity and self learning habits among the students. New approach of learning tasks, activities and experiences which teachers can usefully setup to facilitate pupils’ learning may be attempted.

Learning process may be more effective and profound when it fulfils three major conditions for pupil learning – attentiveness, receptiveness and appropriateness. In the context of thinking about the way, pupils learn the basic task of effective teaching by setting up a learning experience. It involves pupils engaging in mental activity which brings about changes in pupil’s cognitive structure and constitute the desired learning. Teachers, therefore need to be sensitive to the ways in which different teaching methods and strategies foster different type of mental activities. Quality of instruction refers to the extent to which the instruction makes it easy, for pupils to achieve the intended educational outcomes and to enable them in cultivating rich habits of learning by untiring inquisitiveness, inquiry nature and scientific outlook. To suit the above requirements, teachers have the responsibility to implement new strategies and to adopt new techniques. In such a tough, odd situation of deteriorated standards in primary education the investigator make an earnest, positive attempt of introducing two novel strategies of teaching – learning to clear the menace of “hard-t-reach” students through this experimental study. Both the novel strategies are ‘student oriented and child centered’.

They are 1) ASETT and 2) IOLS. The full forms of these two are.

1. Acquiring simple equivalent technical terminology (ASETT)

## 2. Inquiry oriented learning strategy (IOLS)

1). ASETT: Instruction of mathematics, social studies and sciences have, in general, the important duty of co-operating in the development of the power of thought of pupils and leading them to the formation of independent judgment, to facilitate understanding laws of nature. In the formative stage of primary education, teaching non language subjects other than mother tongue occupied a dominant place. Teaching of Mathematics and environmental studies at the primary stage has a great importance since it prepares the pupils to suit in the contemporary technological world to possess thorough grip over content, the child should learn basic concepts with concentration. For that the technical terminology should be within the reach of pupils, which enables them to pronounce, understand and use them properly. At the outset, the investigator thinks to introduce the technical terminology in a new variety so that the children can ably understand and make use of it at higher levels. Today the text books are written according to Sanskritised version.

The child with poor background and coming from a backward locality cannot speak those words. They generally speak their home language. It is also observed that there is no proper chance and atmosphere to speak technical words outside the class room. It makes pupils difficult to understand the new words. This leads to low achievement levels in mathematics and environmental studies. Hence the need was felt to find out the ways to reduce the difficulties in understanding difficult technical terminology. The child should acquire easy equivalents to the difficult technical terms. It can be named as ASETT. Once the pupils understand the concept they may be insisted to use the technical words given in the text.

2). IOLS: It is a new technique which promotes desire to learn, ambition which arouses inquisitiveness. It is the most suitable method to adopt on all the three categories of students – dull, average and gifted children. It is especially a boon for dullards or “hard to reach pupils” and promotes self learning habits. In this method, the teacher acts as a guiding and supervisory source. The teacher gives the instructions and guides the students to read and to frame questions. This IOLS develops thinking capacity exploring tendency, inquisitiveness and curiosity in the learner, positive interest towards subjects, creativity, self confidence, concentration towards studies and gives insight into the subject which promotes self study and self learning habits among students paving a sure path to the success. It can be achieved in the following gradation.

1. By being totally attentive in the class, the individual should understand the concept while being taught.
2. Thorough reading of a textual material in detailed manner and assimilation of knowledge.
3. After careful, thorough reading of every line and precise understanding in between the lines, one has to frame as many questions as possible.
4. Listing out all these questions thus framed and verifying them with the possible answers in the text book.
5. Preparation of such a question bank after correlating the questions framed and their answers.

After thorough attentive understanding of what is being taught, this IOLS facilitates the learner to be extremely thorough with all the details from the text book which helps him in precisely answering all objective type questions in the examination. Framing questions with “what”, “where”, “who”, “when”, is easier than framing questions with “how” and “why”. The teacher has to read all the questions thus prepared by the pupils and all the important questions among them which are really rare and framed by a few can be discussed in groups which enables the pupils to participate in this competitive discussion. Dullards even will get fabulous advantage with this auto learning strategy which elevates them to higher levels. It is a challenging competitive strategy for gifted individuals who excel definitely well in preparing this type of question-banks.

The most possible causes for the decline of educational standards are

- Lack of usage of technical terminology outside the class room.
- Technical terms in the three school subjects are poorly understood as their easy equivalent meanings are not given in the text books.
- Lack of practicing these words in the class rooms and outside the school.
- Home language is different from the school language.
- Lack of proper scientific reasoning, valid judgment and the opportunity for self study.
- Mere passive listening and habit of ‘chewing the cud’ to facilitate rote memory.
- Lack of provision for students to have precise thinking, critical reasoning to get thorough knowledge.
- Lack of provision of facilities for divergent and convergent thinking about cause and effect relationship.
- Mere dependence of children on dictated notes.

## 2. Significance of the Study

Will Mott define education as the apprenticeship of human life. Teacher is the kingpin in the educative process. The role of Primary is quite prominent as he has to lay strong foundation for the edifice of effective education. Teacher’s role is pivotal in arousing enthusiasm and inspiring child for learning and for the sharpening of child’s intelligence and wisdom. How an individual learns effectively, evidently depends upon the ideal educative process, which is imparted in an effective school. How a school performs efficiently, depends upon the performance and the concern of the teacher. To enhance school effectiveness, Teacher’s commitment, devotion and dedication really count a lot. Quality, Commitment, Character and Competence of Teachers are undoubtedly the most significant factors which make them reputed dignitaries in society.

The oft-quoted saying of Pro: D.B Desai – “Teaching is reaching out the pupils so as to enrich” reminds the tough responsibility and the Herculean task of an ideal teacher. Teacher’s responsibility does not cease when he has satisfied the average individuals in the

class who are really more in numbers. To quench the thirst of gifted individuals, the teachers should keep himself abreast of new techniques which is not an easy job but really a hard task to be successfully achieved. Still baffling problems before the ideal teacher is to reach out the dullard and cater to the needs of hard-to-reach individuals in the class to prevent a drop out and save a deviant from school which threatens the ulterior motive of “National Literacy Mission”. Unless teacher is creative and competent, he cannot perform all these multifarious responsibilities. In these days of rapid scientific and technological developments, teaching learning transaction become more sensitive and sophisticated. Consequently teacher is facing many problems to understand the complex class room activities effectively and successfully. Normally a teacher initiates his professional career with interest and enthusiasm but gradually due to all the impediments, his zeal towards profession is vanishing.

The present primary educational scenario of India is really in deplorable and pitiable condition. Under staffed schools, Multigrade Teaching situation, ill equipped schools, struggle and failure of teachers to cater to the needs of students of all the five classes, overcrowded class rooms, huge number of hard-to-reach children, large number of out-of-school children and low level of achievement – all these are determinant hindering forces which pull down the school effectiveness.

Infact, it is better to light a small candle instead of abusing existing darkness around. Similarly in a vast democratic country like India, instead of abusing the existing conditions, to overcome the hurdles, one should adopt new strategies to reach out all the three categories of children-dullards, average individuals and gifted students. The existing and true statement of Albert Camus “Boats are safe in the harbour, but they are not intended for that” reminds the investigator to take this challenging issue- “Meeting the needs of hard-to-reach pupils” which is quite a trivial problem and undisputedly the bane o the day. Hence the investigator decided to make a probe into the alarming problem.

After ascertaining the root cause of the pertinent problems, the investigator listed out the following objectives.

The main objectives of the study are

### 2.1. Objectives

1. To identify the extent and level of academic performance of students in the pre test in three non –language subjects covering the lessons which were effectively dealt with.
2. To classify the class into two equal halves based on their academic performance after recording initial statistical academic achievement in non-language subjects among the pupils.
3. To lessen the burden of complicated technical terms in the three non-language subjects by providing enough opportunities for the practice of the terms by reducing the difficulty level in understanding them by giving easy equivalent words for the half of the class which constitute experimental group.
4. To make the children acquaint themselves with the skill of effective comprehension and develop precise skill and able questioning by enabling the children of another experimental group to acquaint themselves with the skill of framing enormous number of questions.
5. To study the relative efficacy of ASETT and IOLS as effective preventive measures of cleaning the menace of ‘Hard-to-reach’ students in the class.

### 2.2. Basic Assumptions

1. Creating more situations and atmosphere in the classroom would enable the students to develop interest and understand new, easy simple equivalents to difficult technical terms.
2. Giving the proper meanings and synonyms with suitable illustrations and diagrams, which enable to understand difficult technical terms?
3. Practice of the new terms in a systematic way, which lead to problem solving.
4. Creating more situations and atmosphere in the classroom to enable the students to develop effective and precise framing of questions from the text book.
5. Enabling the child to develop inquisitiveness and inquiry oriented learning strategy framing maximum number of questions from the text book.

### 2.3. Hypotheses

1. There will be no significant difference between the performance of students before intervention (N=60) of the entire class who were exposed to traditional teaching and the first experimental group (N=30) after the intervention of the first novel strategy of ASETT.
2. There will be no significant difference between performance of students exposed to traditional teaching (N=60) and second experimental group after the intervention of the first and second novel strategies ASETT and IOLS (N=30).

## 3. Research Design

It is proposed to employ pre and post test designs in the present study to make a probe into the relative efficacy of the intervention of the two novel strategies ASETT and IOLS.

The investigator prepared a test on first lessons of all the three Non language subjects to assess the academic performance of students based on which ‘hard-to-reach’ students can be identified. After that the next two lessons in all the three non language subjects were

taught to first experimental group (N=30) by using ASETT and to the other i.e. second experimental group by adopting both the two novel strategies- ASETT and IOLS.

### 3.1. Sample

The investigator restricted her study to only one school. She selected students from very low income group. She took all the students of class V (N=60) as the sample for her study. The investigator classified the entire class into two identical groups based on the scores of pre-test.

### 3.2. Tools

- i. A tool to measure the knowledge and understanding of new difficult terms of mathematics, Environmental studies I and II.
- ii. An illustrative example of framing good number of possible questions from a small paragraph from the text books in all the three non-languages subjects of V standard was given.
  - a. A technique of thorough reading, effective comprehension and precise questioning through the novel strategy IOLS effectively influence 'hard-to-reach' students.
- iii. Pre test on first lessons of three Non language subjects and post test on next two lessons from all the three Non language subjects.

## 4. Analysis & Interpretation of the Data

Computation of Means, Standard Deviations and Critical ratio values was done. Based on the critical ratio value the impact of interventions was studied.

### STATISTICAL ANALYSIS

Category	N	A.M	S.D
Pre test	60	29.16	16.58
Post test (with ASETT)	30	48.16	19.05
Post -test (with ASETT & IOLS)	30	58.83	15.66
Post-test for the entire sample	60	53.50	18.23

Table 1

#### 4.1. Comparison between Pre Test Scores and Post Test Scores for Second Experimental Groups

Category	N	A.M	S.D	C.R
Pre Test Scores	60	29.16	16.58	8.33 **
Post test (with ASETT & IOLS)	30	58.83	15.66	

Table 2: Significant at 0.05 & 0.01 level.

The hypothesis – “There will be no significant difference between performance of students exposed to traditional teaching (N=60) and second experimental group after the intervention of the first and second novel strategies ASETT and IOLS (N=30)” is rejected.

#### 4.2. Comparison between Pre Test Scores and Post Test Scores for First Experimental Groups

Category	N	A.M	S.D	C.R
Pre Test Scores	60	29.16	16.58	4.65 **
Post test (with ASETT )	30	48.16	19.05	

Table 3: Significant at 0.05 & 0.01 level.

The hypothesis – “There will be no significant difference between the performance of students before intervention (N=60) of the entire class who were exposed to traditional teaching and the first experimental group (N=30) after the intervention of the first novel strategy of “ASET T” is rejected.

#### 4.3. Comparison between Post Test Scores of the Two Experimental Groups

Category	N	A.M	S.D	C.R
Post test (with ASETT )	30	48.56	19.05	2.37*
Post Test (with ASETT & IOLS)	30	58.83	15.66	

Table 4: Significant at 0.05 level

The hypothesis – “ There will be no significance between the performance of students of first and second experimental groups i.e. single advantageous and double advantageous groups (N=30 for both groups) after intervention of new strategies ASETT and IOLS. As there is a glaring difference between the performance of students in pre test (with traditional teaching) and in post test (after intervention of novel strategies like ASETT and IOLS), it can be interpreted that these novel strategies are of immense help for clearing the menace of “Hard-to-reach’ pupils by easily darting in to the minds of even the dullards.

### 5. Findings

1. The performance of total students in post-test after implementation of two novel strategies is found to be 45% more than the performance of entire students in the test.
2. The performance of double advantageous group is 60% more than the performance of students in pre-test.
3. The performance of single advantageous group is 30% more than the performance of students in pre-test.
4. The number of students who crossed the average mark of 50 is less in number in pre test after being exposed to traditional teaching. The number of students who crossed the average mark of 50 is moderate in number in first experimental group after being exposed to ASETT alone. The number of students who crossed the average mark of 50 is more in number in second experimental group after being exposed to ASETT and IOLS alone.

### 6. Educational Implications

An earnest attempt by a committed teacher to adopt exemplary, novel strategies and an inclination to change-proneness by being flexible will enhance teacher competency and creativity. If commitment and creativity are associated with a favourable attitude in accepting new strategies, which are innovated by themselves and in accepting new strategies put forth by others which are proved to be fruitful will make making “Reaching hard-to-reach pupils”, and clearing the bane not a myth-but a reality and possibility.

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