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DETERMINING AN EFFECTIVE PEDAGOGICAL METHOD FOR TEACHING STUDENTS OF LOW-INCOME BACKGROUNDS

Saksham Goel

Student at The Doon School, Mall Road, Dehradun-248001.

ABSTRACT

Learners from poor backgrounds due to limited exposure have difficulty in co-relating to what is being taught them. As a result, they lack interest, determination and motivation. The main purpose of the study was to determine which teaching methodology (Direct instruction method or Activity-based learning) is more relevant to the students from poor backgrounds in respect to their learning outcomes.The study employed the descriptive survey research design. In order to study the impact of the two different pedagogical methods, Baseline, Midterm and Terminal Assessment Surveys were taken at different periods of time during the eight-month study. The tests were administered to assess the literacy and numeracy level of 50Grade 2 and Grade 3 students attending the Bal Mandir Nursery School in Muzaffarnagar, India. Then the students' achievement level in the three tests was compared in order to determine the more effective instructional method.The research study employed both quantitative and qualitative techniques in collecting and analysing data.Findings revealed that there was an improvement in the achievement level of the students in case of both the teaching methodologies: Direct instruction method and Activity-based learning. However, for most of the criteria average scores increased more during the period of activity-based learning. The research concludes by proposing a multifaceted approach to teaching that includes teaching the students in low-income schools through lectures, activities and videos.

The researcher also recommends the creation of a print-rich environment as it will not only help the student but also increase the literacy level in the low-income household and will thereby serve as a medium to educate the family as a whole.

KEY-WORDS: Activity-based learning, Direct instruction method, Print-rich environment.

1. Introduction

With a population of around 1.28 billion, in India over 200 languages and almost 1600 dialects are spoken (National University of Educational Planning and Administration). To complement these existing cultural diversities there are also hierarchies of castes, economic status, gender relations and as well as an uneven economic development that play an influential role in determining access to education.

In order to combat the aforementioned problems, the government of India launched the Sarva Shiksha Abhiyan (SSA) as its flagship programme for the Universalization of Elementary Education (UEE) in 2000-2001 (SSA, Government of India). Under the programme, the government adopted various schemes in an effort to improve the quality of education in terms of imparting knowledge, availability of infrastructure, and the quality of teachers. However, according to the Annual Survey of Education Report (Nehru and Raghupathi, 2011), the primary education standards have not shown many improvements in learning outcomes in reading and mathematics in spite of the many changes brought about by SSA since 2001. Therefore, the need for clear delineation of learning outcomes and better pedagogical practices and assessments has been emphasized by educationists (Kingdon, 2007; Yadav, 2007).

Today while quantitatively India is inching closer to universal education, the quality of its education has been questioned particularly in its government-run school system and low-income schools. However, before identifying and administering a suitable system of education for the students coming from the lower strata of the society it is necessary to understand the nature of their upbringing and their perspective of what education is.

The children from such backgrounds are often subjected to various external shocks. As they come from poor backgrounds, the performance of students is affected by external shocks such as minimum parental support to academics, minimum parental education, negative parental attitudes (specifically towards education), inadequate servings of food, low standard of living and problems of alcohol and substance abuse.

With limited exposure, these students are unable to co-relate and thereby understand what is being taught to them. Therefore, these children lack interest, determination and motivation. Also, the children live in print-free environments (i.e. no reading material) which hinders their full development. As a result, students from such backgrounds show great variations in their learning habits. The students show differences in all three components of the process of learning- information input, information processing and expression of information or knowledge (Hariharan, 2011). It is important that the teaching methodology proactively cater to such differences in order to achieve high quality learning outcomes for all students.

While education has been envisioned as the great equalizer, this vision has been more myth than reality. Today, the achievement gap between the poor and the non-poor is widening. The tracking of differences in the cognitive performance of toddlers, elementary and middle school students, and college-bound seniors shows substantial differences by income and/or poverty status (Coley, 2013). These differences undoubtedly contribute to the increasing stratification in who attends and graduates from college, limiting economic and social mobility and serving to perpetuate the gap between rich and poor (Coley, 2013).This has made me to question the effectiveness of the existing method of teaching and find out a way to close down the achievement gap between the poor and the rich.

2. Objectives

In this study the following three broad objectives have been addressed.

i) To find out how the performance levels of the students in the languages and Mathematics attending low-income schools has changed over time when taught through both the traditional method of teaching (Direct Instruction Method) and Activity-based learning approach respectively.

ii) To determine which teaching methodology (Direct instruction method or Activity-based learning) is more relevant to the students from poor backgrounds who attend low-income schools. As part of the process evaluate which methodology leads to greater development of the basic numeracy and literacy skills in initial years of elementary education for these children.

iii) To highlight drawbacks and make recommendations of what pedagogical method and educational setting would allow these students to have the best learning outcomes.

3. Methodology

This study adopted a descriptive survey research design. The study was conducted among the Grade 2 and Grade 3 students of the *Bal Mandir Nursery School,* Muzaffarnagar, Uttar Pradesh.The study recorded the achievement levels of 50 students. These students were in the age-group of six to eight years. Baseline, Mid-term and Terminal Assessment Surveys (BAS, MAS and TAS) were conducted at different time intervals to monitor the change in achievement level of students in language and mathematics in accordance with the pedagogical method being followed.

Students' achievement level was compared with the achievement level of the same students at different points of time. Initially, a Baseline Assessment Survey (BAS) was conducted to determine the initial achievement level of 25 students in Grade 2 and Grade 3 respectively. At this time, the students were being taught through the Direct instruction method. This method of teaching continued for four more months and then a similar test, called the Mid-term Assessment Survey (M.A.S) was conducted to determine the change in the students' achievement level. Now, after this point, activity-based learning was implemented as a teaching methodology. Learning in the classes using activity based-learning then took place for four months after which the Terminal Assessment Survey (TAS) was conducted to determine the improvement in the literacy and numeracy levels.

Through the course of the study, the results of these achievement tests have been analysed both quantitatively and qualitatively to find out how effective the activity-based learning approach has been and what type of teaching methodology has suited a child's cognitivedevelopment.

3.1 Tests used in the study

The test used in the study to determine the literacy and numeracy skills of students was based on the following criteria:

Criteria to be assessed-

- **Language-**

1. **Reading Comprehension-** The students will be provided with a simple and an interesting passage with a valuable moral. This will be a test of their reading skills, reading comprehension and vocabulary. A strong reading comprehension paves the way for a strong listening comprehension.

a) **Question-Answers-** The students will be asked five straight forward questions (why, what, how) on the given comprehension in order to test their understanding. **(Out of 10)**

b) **Recall of the same story by the children in their own words the next day-** The students will be required to recite the same story as in the passage in their own words on the next day. This exercise will not only test their recalling ability but also this will be a reflection of the students' memory and the concentration paid by them earlier. It will also be a test of a student's speaking skills.**(Out of 10)**

This particular component will be marked through-

i. The sequence of facts
ii. The number of facts stated
iii. Coherence of the story

2. **Picture-Writing -** The students will be first provided with an intellectually stimulating picture. Then they will be given a time duration of ten minutes to assess it and write sentences about what is happening in the picture or carve a story around the picture. This will enable us to assess the student's creativity and thought process. In order to do so, certain aspects of the story recited will be assessed-

a) **Sentences-** Marks will be given according to the number of sentences formed.**(Out of 5)**

3 marks are awarded for 10 to 12 sentences.

2 marks are awarded for 6 to 9 sentences.

1 mark is awarded for 2 to 5 sentences.

Additional one mark will be awarded if the sentences formed are coherent and another mark will be awarded for global impression.

b) **Beginning and the ending-** Each story is incomplete without a beginning and an end. The students are expected to have a relevant start and end to their story. **(Out of 5)**

3. **Phonological Awareness-** Phonological awareness is an essential precursor of learning to read and write conventionally. Some basic level of phonological skills is required for acquiring certain emergent reading and writing abilities. But in order to develop phonological awareness a person needs to have a certain amount of letter knowledge. It provides the students the ability to figure out the spelling and the pronunciation of an unknown word. Phonological awareness has gone onto become an important stepping stone in the modern era of education

a) **Identifying Sounds-** Firstthe students will be asked to identify the starting and the ending of 5 words.

Then they will be asked to replace few letters of the word and then do the whole exercise again. They will even be required to pronounce the whole word.**(Out of 10)**

Note- Being inspired by Elizabeth Sulzby's and William Teale's research on "Emergent Literacy", I feel that Story-Reading, Story-Telling and Story-Writing are an integral part of the concept of emergent literacy. Sulzby (1989) describes emergent literacy as "the reading and writing behaviours that precede and develop into conventional literacy" and I personally believe that Grade 2 and 3 are years of emergent literacy.

Mathematics-

1. Recognition-

a) **Number Recognition-**A prevalent problem with students in the low-income schools and the slum schools is that they are able to count but when it comes to recognizing those numbers or counting real time objects, they are unable to do so. Therefore, by allowing the students to analyse the real time objects, they can develop a practical aspect to their theoretical knowledge which is the most crucial part of one's education.

i. **Five different sets of objects-** The students will be given five differentset of objects and will be expected to count the number of objects in the respective sets. **(Out of 5)**

ii. **Reading gestures-** The student will be shown five different numbers through hand gestures and he will be asked to identify each one of them. **(Out of 5)**

b) **Shape Recognition-** Show the students ten different shapes and then see how many can they recognize. This is also a test of the child's basic awareness. **(Out of 10)**

c) **Pattern Recognition-** Patterns help children learn to make predictions, to understand what comes next, to make logical connections, and to use reasoning skills.Show the students ten different patterns and then ask them to identify the next term or the next thing in sequence. Also, ask them to recognize the pattern.**(Out of 10)**

2. **Arithmetic Skills-** The students will also be assessed on their basic arithmetic skills involving addition and subtraction.

a) Ten direct questions of addition and subtraction. **(Out of 10)**

b) **Problem Solving-** It is the ability to think through a problem, to recognize there is more than one path to the answer. It means using past knowledge and logical thinking skills to find an answer. The students will be given tenproblems related to money, time and weight and will be expected to solve them through basic addition and subtraction.**(Out of 10)**

3. **Comparisons-** Identifying which is a bigger and a smaller quantity.**(Out of 10)**

Note- Math skills are just one part of a larger web of skills that children are developing in the early years—including language skills, physical skills, and social skills. Each of these skill areas is dependent on and influences the others. Therefore, I feel that it is very integral to link mathematics with language. The fact that anything and everything can be expressed through the medium of language is what makes it so special, because at the end of the day, all we are using are abstract words to do some mathematics (for example- solving word problems). Similarly, the process of doing mathematics can be put into words which will not only improve a child's arithmetic ability but also his linguistic skills.

Each time a test of similar difficulty level was given to the students.

3.2 Activity-based learning (ABL)

To respond to the widening achievement gap between the rich and the poor, an evolution from the integrated education (where the child is made to adapt to fit the mainstream environment) to an inclusive education (where the environment is adapted according to the needs of the child) is required(National University of Educational Planning and Administration). It is here where the whole concept of activity-based learning comes into the picture. According to this teaching methodology, activities are created to arouse interest in students who are unable to corelate the information that they are taught.

The idea of Activity-based learning follows the constructivist educational theory and is a child-centred pedagogy. Activity-based learning may be defined as a method of instruction, where activities of different types, suitable and relevant to specific subjects are integrated seamlessly into the regular instructional materials and methods to involve students and to engage them fruitfully(Hariharan, 2011).

As a result, Activity-based learning (ABL) propagates more students to come to school as the context of the information becomes more important than the information itself. The key feature of the Activity Based Learning (ABL) method is that it uses child-friendly educational aids to foster self-learning and allows a child to study according to his or her aptitude and skill (Centre for Education Innovations, 2015).In this pedagogic method, the teacher is considered as the facilitator and the students self-learn through the medium of a detailed array of learning cards. Activities in each milestone include games, rhymes, drawing, and songs to teach a letter or a word, form a sentence, do maths and science, or understand a concept(Thangavelu, 2006).Also, children are showed videos and pictures which fills the gap for lack of exposure. If a child is absent one day, he continues from where he left unlike in the old system where the child had to learn on his own what he missed out on. The teaching methodology tries to mitigate the earlier mentioned individual differences and provide an environment where every child can prosper.

3.3 Direct Instruction Method (Traditional Teaching Methodology)

Traditionally, our pedagogical practices have involved the "one size fits all" idea where there is a lecture method and students who follow the teacher within the

time frame stipulated in the timetable progress while those that don't get left behind(Hariharan, 2011).

Further, those who get left behind would be detained in the same class leading to negative social, emotional and psychological effects. This instructional method of teaching is followed in most parts of India and at all stages of schooling. In this method of teaching, the teacher is considered the giver of information and students are considered the passive recipients of information. The major source of information is the teacher and the textbooks that are written for specified age groups and for particular subjects. The learning takes place through listening and writing what the teacher says or by noting down items from the textbook or from the blackboard.

Direct Instruction Method has been constantly criticised by educationist for laying overemphasis on verbal answers, reliance on rote learning (memorization with no effort at understanding the meaning), for being teacher centric and a curriculum controlled pedagogy.

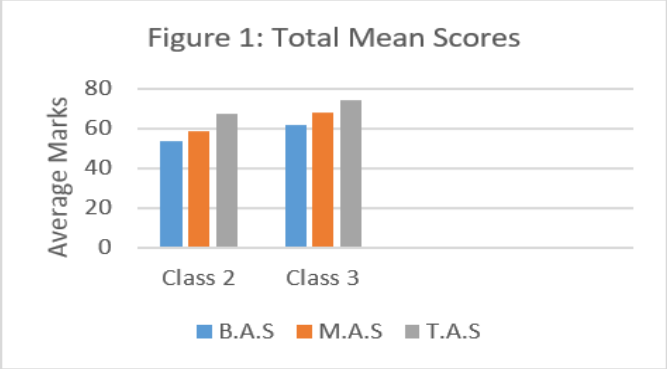
4. Results and Discussion

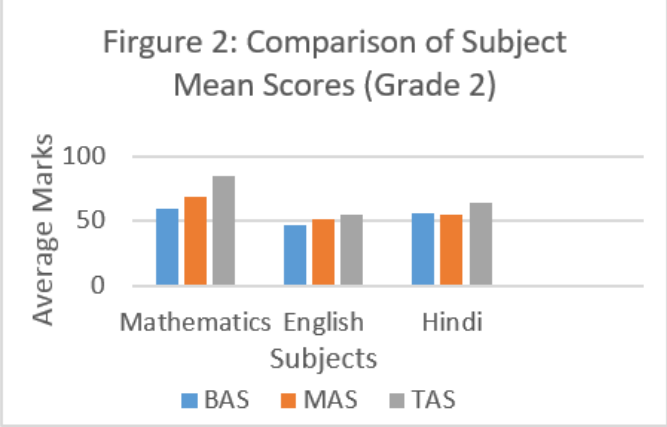
The central question to which an answer was sought was: how do the performance levels of the students change with respect to the selected learning outcomes.

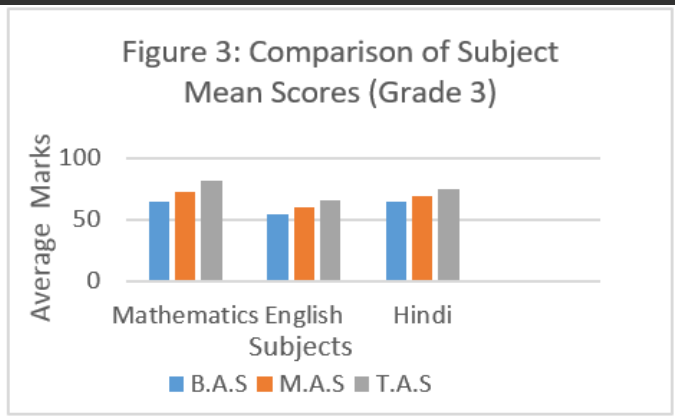
Comparison of mean scores (expressed as percentage of maximum marks) in language (English and Hindi) and mathematics in Baseline Assessment Survey (B.A.S) was made with the mean scores of the Midterm Assessment Survey (M.A.S) and the Terminal Assessment Survey (T.A.S) to see whether there was any significant change in achievement level of students when students were taught through the traditional teaching methodology and activity-based learning respectively.

For Grade 2, there was an increase in the mean score of Mathematics between Baseline Assessment Survey and the Midterm Assessment Survey (MAS). The mean score improved from 59 in BAS to 68 in MAS. However, the improvement rate was much higher in the Terminal Assessment Survey (TAS) as the mean score improved from 68 in MAS to 84.25 in TAS. Contrary to the results for Mathematics, there was constant improvement in English from 46.56 in BAS to 51.19 in MAS and from 51.19 in MAS to 54.5 in TAS. In Hindi, the mean score declined from 55.75 in BAS to 55.31 in MAS and increased from 55.31 in MAS to 63.69 in TAS.

Similarly, for Class 3, there was an increase in the mean score of Mathematics from 64.18 in BAS to 73.27 in MAS and from 73.27 in MAS to 81.27 in TAS. The mean score of English improved by approximately the same points. It increased from 54.5 in BAS to 60 in MAS and from 60 in MAS to 65.9 in TAS. In Hindi, the mean score increased from 64.45 in BAS to 69.45 in MAS and increased from 69.45 in MAS to 75.27 in TAS.







The potential reason for similar improvement from BAS and MAS and from MAS and TAS for languages is that in the stage of developmental learning it is easy to grasp and memorize concepts. However, that initial learning rate plateaus and learning at the same rate becomes harder. As the process of learning keeps on taking place, gradual increase in hard work and effort is required to sustain similar improvement rate. Figures 1, 2 and 3 clearly show that there was more improvement in the learning outcomes of students from low-income backgrounds when activity-based learning was implemented.

Table 1 and Table 2: Average Scores of Grade 2 and Grade 3 students in different criteria of Mathematics.

Table 1 (Grade 2)	BAS	MAS	TAS
Number Recognition (10)	6.5	7.38	8.63
Shape Recognition (10)	5.19	6	8.13
Pattern Recognition (10)	5.34	6.88	7.81
Addition and Subtraction (10)	6.38	7.56	8.31
Word Problems (10)	6.31	7.25	8.56
Comparison (10)	5.25	6.44	9.13
Mean Score (100)	59	68	84.25

Table 2(Grade 3)	BAS	MAS	TAS
Number Recognition (10)	7.54	8.36	8.72
Shape Recognition (10)	5.45	6.36	7.45
Pattern Recognition (10)	5.9	6.63	7.45
Addition and Subtraction (10)	5.36	6.63	7.27
Word Problems (10)	5.9	7.09	8.27
Comparison (10)	8.27	8.72	9.18
Mean Score (100)	64.2	73.3	81.8

According to the results of the Baseline Assessment Survey Test (BAS), all the subjects performed poorly.However, the achievement levels ofstudents continuously improved through the course of eight months. The average scores increased from BAS to MAS asa result of the daily teaching (through traditional teaching methodology) that happenedin the school during the first four months. It resulted in a slight improvement as the same mathematical concepts were taught and revised. However, the rate of improvement was far greater from MAS to TAS. The teaching in the class had a more significant impact for the students as they learned through activities which increased their concentration and retention. Also, it was observed that the activities allowed for the direct application of what was being taught in class helped the students to clarify the concepts of the subjects.

For example, in an activity for shape recognition, the students were given twenty different objects and they were told to place the objects next to the name of their shapes. Similar activities were conducted and repeated through the course of four months after the Midterm Assessment Survey and there was a distinct improvement in the achievement levels of students.

The performance of the students on the **number recognition** aspect of the test was fairly poor for both Grade 2 and Grade 3. Their performance in the Baseline Assessment Survey (with an average of 6.5 and 7.54) highlighted the fact that the students had attained theoretical knowledge however lacked application skills. Although most of the students in both the classes knew basic counting, they could not count the real-time objects properly. Counting and recognizing numbers is a skill that a student should develop soon after he or she learns how to count. A slight improvement can be seen from BAS to MAS as with time the students become more familiar with number; however, real improvement is seen after activity-based learning is implemented. This is because the teaching methodology includes activities which require students to deal with objects more frequently.

Also, the students got poor scores on **shape recognition** aspect of the test. Just like number recognition, the shape recognition aspect of math had only been theoretically taught in the class. Although with time the students gradually improved, major improvement was again seen after activity-based learning was implemented. As stated earlier, this was primarily because of activities where students were expected to arrange the objects according to their shapes. Also, while Grade 2 students in general lacked the knowledge of a cone, the Grade 3 students were poor at recognizing three dimensional shapes and figures.

For **pattern recognition**, there was more increase in the average score of students of Grade 2 from 5.34 in BAS to 6.88 compared to the increase in the average score of 6.88 in MAS to 7.81 in TAS. The scores improved in both the cases as the students got stronger at the concepts. More improvement was seen in the first case as the basics of the students were weak. Through lectures the students became more informed of concepts in mathematics such as prime numbers. As for Grade 3, more improvement was seen from MAS to TAS rather than from BAS. A possible reason for this result is that Grade 3 was already aware of concepts such as prime numbers and also knew the multiplication tables of more numbers. With more practice the students scored better on the latter tests.

For **addition and subtraction,** there was more improvement in the average score from BAS to MAS than there was from MAS to TAS for students of both Grade 2 and 3. This happened because basic arithmetic improves with practice. However, an increase was also noticed during the time of activity-based learning as the students were given real life situations where they were supposed to add and subtract. For example, a situation regarding lending and borrowing of money was given and the students were supposed to relate mathematic concepts to their daily lives. This resulted in further improvement of results.

The performance of the students of both the classes improved more for **word problems** when activity-based learning was implemented. This simply happened because the activity-based learning methodology involves teaching through activities and giving students real life situations. As a result, the students had become accustomed to applying the mathematical concepts in real life scenarios. For Grade 2 the average score of word problems increased from 6.31 in BAS to 7.25 in MAS and from 7.25 in MAS to 8.56 in TAS. As for Grade 3, the results improved from 5.9 in BAS to 7.09 in MAS and then to 8.27 in TAS.

On the questions of **comparison**, Grade 3 performed much better than Grade 2 probably because students of Grade 3 had more knowledge of the numbers and their values. Therefore, there was no significant improvement took place in the scores of students of Grade 3. It increased from 8.27 in BAS to 8.72 in MAS and then to 9.18 in TAS.

Table 3 and Table 4: Average Scores of Grade 2 and Grade 3 students in different criteria of English Language.

Table 3(Grade 2)	BAS	MAS	TAS
Question and Answer (10)	4.31	4.82	5.88
Recall (10)	5.56	5.94	6.81
Picture Writing (10)	5.38	5.88	6.43
Phonological Awareness (10)	3.25	3.69	4.19
Mean Score (100)	46.56	51.19	54.5

Table 4(Grade 3)	BAS	MAS	TAS
Question and Answer (10)	6	6.9	7.45
Recall (10)	6.09	6.36	7.36
Picture Writing (10)	5.82	6.55	6.63
Phonological Awareness (10)	3.82	4.27	4.82
Mean Score (100)	54.54	60	65.9

Initially, the students of both the classes performed poorly on the question and answer part of the reading comprehension provided to them. For Grade 2, the improvement from BAS to MAS was less when compared to the improvement from MAS to TAS. This was because the students did not completely understand the passage when they read it themselves. However, when activity-based learning was implemented, students were shown pictures and objects so they could try and visualize what the word indicated. This proved to be crucial as the students were from a low income background and as a result, they could not relate to the word. For example, when students were normally told what aeroplane was, they could not relate to it. However, when they were shown a video, they could retain the meaning of the word. As a result, showing pictures and videos helped the students understand and retain the meaning of the words as earlier they had limited exposure because they came from poor backgrounds. It was also seen that the students made many spelling errors. However, with practice their spelling improved a bit. For Grade 3, the average score of question and answer aspect increased from 6 in BAS to 6.9 in MAS and from 6.9 in MAS to 7.45 in TAS.

The students were also asked to recall the story that they had read the previous day. It was seen that there was very little improvement in the recall of the story from BAS to MAS. This was primarily because there had been very little improvement in the understanding level of the students. It was noticed that although students were able to recall the story, it was not coherent and they simply stated facts. As the understanding improved, the students could recall the story better. The average score for recall improved from 5.94 in MAS to 6.81 in TAS for Grade 2. The average score for recall improved from 6.36 in MAS to 7.36 in TAS for Grade 3. Also, activity-based learning involved teaching through telling stories which in turn helped few students to frame their story in a better manner.

In the picture writing aspect of the test, the students were required to write a few sentences on what they saw in a picture given to them. The sentences could either elaborate on what was happening in the picture or the students could make a story out of the picture. For Grade 3, the average score improved from 5.82 in BAS to 6.55 in MAS. During this period, students were given written assignments so they could improve on their writing skills. It was seen that with time students' vocabulary had improved and they had become more creative. However, there was insignificant improvement in the average score from MAS to TAS. For Grade 2, the average score improved from 5.38 in BAS to 5.88 in MAS and from 5.88 in MAS to 6.43 in TAS.

As for phonological awareness, no real improvement was seen as the students were not familiar with the concepts of breaking down sounds. Therefore, they performed unsatisfactorily on the tests. However, the students were taught a bit of phonetics in Hindi which actually helped them try and identify the syllables in English words.

Table 5 and Table 6: Average Scores of Grade 2 and Grade 3 students in different criteria of Hindi language.

Table 5(Grade 2)	BAS	MAS	TAS
Question and Answer (10)	5.88	5.94	6.94
Recall (10)	6	5.94	6.81
Picture Writing (10)	6.25	5.63	6.56
Phonological Awareness (10)	4.13	4.5	5.06
Mean Score (100)	55.75	55.3	63.69

Table 6(Grade 3)	BAS	MAS	TAS
Question and Answer (10)	6.09	7	7.45
Recall (10)	6.9	7.09	7.82
Picture Writing (10)	7	7.36	7.82
Phonological Awareness (10)	6.09	6.27	6.91
Mean Score (100)	65.45	69.45	75.27

Compared to the results of English language, the students performed better at Hindi as it was their daily language of communication. Just like in the test for English, the students were given a comprehension and then they were required to **answer the questions** at the end of the passage. For Grade 2 there was no significant improvement from BAS to MAS as the average score increased from 5.88 to 5.94. However, the score improved from 5.94 in MAS to 6.94 in TAS. For Grade 3 there was constant improvement as the average score increased from 6.09 in BAS to 7 in MAS and from 7 in MAS to 7.45 in TAS.

For **recall,** the average score of Grade 2 and 3 remained almost the same from the Baseline Assessment Survey to the Midterm Assessment Survey. However, the scores improved for both the classes from MAS to TAS.

Similar to the English test, the students were required to write a few sentences on what they saw in a picture given to themthe **picture writing** aspect of the Hindi test. The sentences could either elaborate on what was happening in the picture or the students could make a story out of the picture. For Grade 2, the average score decreased from 6.25 in BAS to 5.63 in MAS. The potential reason for the decrease in score was that the picture provided in the Midterm Assessment Survey was more complex for the Grade 2 students. However, improvement in the vocabulary and creativity of the students was noticed in the Terminal Assessment Survey. For Grade 3, the average score improved from 7 in BAS to 7.36 in MAS and from 7.36 in MAS to 7.82 in TAS.

The students showed signs of improvement in **phonological awareness.** Unlike the case for English, the students were taught basic phonetics in Hindi. The average score improved from 4.13 in BAS to 4.5 in MAS and from 4.5 in MAS to 5.06 in TAS for Grade 2. As for Grade 3, the average score increased from 6.09 in BAS to 6.27 in MAS and from 6.27 in MAS to 6.91 in TAS. Almost an equal amount of improvement was noticed during the time of traditional teaching methodology and activity-based learning.

It was noticed that the students performed better in Hindi when compared to English as Hindi is the daily language of communication of the students. Also, it is the medium of exchange in their households. Students showed signs of improvement in the phonetics aspect of the Hindi test and not in the English test as they were being taught phonetics only in Hindi. Also, it was noticed that the students'

response rate was better in Hindi and they did not hesitate while answering questions. Overall it would be accurate to say that activity-based learning proved to be more effective for teaching languages to the students from low-income background. Through pictures, videos and activities students were able to clear their doubts and were able to understand the concepts and the terms better. ABL, however, had a greater impact on English learning. The students were unfamiliar with many words and their meanings. Through activity-based learning it was easier for the students to co-relate and understand the meanings of previously unfamiliar words at their own pace.

5. Shortcomings in the research

There were few shortcomings in the research due to which the results of the study are not completely accurate. Firstly, the response from the students was unsatisfactory. There was a problem of irregular attendance in the low-income school. The students missed classes on a weekly basis. This meant that both of the teaching methodologies could not have their full impact on the learning outcomes of students and as a result, the entire teaching that took place for four months each was not reciprocated in the test results. Also, it was observed that initially the students lacked high levels of concentration and got distracted easily. Coming from poor families, these children lack exposure and could seldom co-relate with what is being taught in the class and therefore, the students had low levels of concentration and retention. However, with activity-based learning the teachers reported improved attendance records and higher concentration levels. Also, through activities, videos and pictures the students were able to understand and relate to the concept better. Few students due to lack of previous interactions hesitated to respond due to which certain degree of development failed to be recorded.

Also, it would be inaccurate to generalise the results and formulate a theory based on a small sample size (twenty-five students in each class). The relatively short duration of the study (four months for each teaching methodology) also makes generalisation short-sightedas eight months is not an adequate time to notice and study the developments in students.

The cumulative effect of these factors lead to variations in individual needs for learning effectively.As a result, the above mentioned things proved to be impediments in a student's journey of cognitive development.

6. Conclusion

For the first objective, students' achievement level was compared at three different stages using the Baseline Assessment Survey (BAS), Midterm Assessment Survey (MAS) and Terminal Assessment Survey (TAS). The tests used in the study were administered to the students for checking whether the achievement level had remained the same or had improved. It was noticed that both the teaching methodologies caused improvement in the students' achievement levels. This was because with teaching, irrespective of its form, improvement is bound to happen with time. However, the average scores for most of the criteria increased more from MAS to TAS rather than BAS to MAS.It was inferred from the results of the study that ABL was more effective for teaching languages, specially English. This happened because through activity-based learning many doubts got cleared, the students understood the concept better and the lack of exposure was made up for. Moreover, another reason for more improvement was the fact that the students had already been taught the concepts in class through lectures and now during the second four-month period the students worked on improving their understanding of the concepts. Also, it can be inferred from the results of the achievement tests that activity-based learning led to greater development of the basic numeracy and literacy of the students of Grade 2 and 3.

In light of this, I conclude thatthere is an urgent need to review the existing education system and the pedagogical methods in order to arouse interest, motivation and determination in students from low-income backgrounds. As stated earlier, due to lack of exposure and other external shocks, a student coming from a poor background is unable to fully develop mentally. Learning out of compliance yields superficial understanding for the majority of people and limits the highest levels of achievement to those individuals who are able to find personal meaning and intrinsic motivations despite the system in which they were learning.

7. Suggestions

Just as the national policy and programs have been constantly reviewed to improve educational facilities available to children, the pedagogical practices too need to undergo radical transformations urgently. It would be wrong to say that by solely implementing activity-based learning there would be significant improvement in the performance of the students as previous studies and the nation-wide Annual Survey of Education Report (ASER 2010) have shown low levels of achievement among government school students including the students attending the government schools in the state of Tamil Nadu where activity-based-learning (ABL) has been implemented (Hariharan, 2011).

As Kenneth T. Henson claims, usually the methods are better for some purpose, e.g. understanding, transfer, but there is no method simply the best for everything (Boumová, 2008).Therefore, it would be beneficial for students and specially for those coming from the low-income backgrounds to be first taught the concept (like it is presently done in the traditional teaching methodology). Then through the method of activities their understanding should be enhanced. The activities and the videos will ensure that the students completely understand the concept and the relevance of the concept that is taught to them in the class and it will also allow the students to gain an insight into the application of the knowledge learnt.

Concluding from Doctor Albert Bandura's 'Bobo Doll' experiment on social learning, it can be inferred that learning not only takes place from what we are taught but also from what we observe in our surroundings and societies around us. Therefore, it has become critical to include the families of the students into the education system in order to ensure proper cognitive development. This can be done by creating a print-rich environment which will not only provide the students with an adequate environment that will supplement them in their cognitive development but also help by increasing the literacy in the family.

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