Abstract

In our revolving spheroid, greater emphasis is being placed on Industrial and Technological development. As a result students are being encouraged to take up science related subjects. One subject that cut across all the sciences is mathematics. ‘. Bacon says. “Mathematics is the gateway to all sciences”. Though mathematics is based on abstract its growth is enormous. Mathematics is the breadth of all subjects. Without mathematics any subject, language and/or human life could not attain perfection. It is also felt that ‘Mathematics is the Queen of all sciences as it influences and penetrates all branches of knowledge and science in particular. Teachers of mathematics felt that teaching arithmetic at the primary level and mathematics at the higher level viz; algebra & geometry etc; is a difficult task. It is generally felt that practice makes a man perfect. So the investigators intended to find out the students’ lacking in mathematics may be due to lack of feedback and motivation in rural areas due to the paucity of literature, educators and educationists.

I. INTRODUCTION

Mathematics has a logical structure. Students have to construct first of all simple relationships and progress to more complex tasks. As the student progresses in the ordering
of mathematical tasks, the learning skills and the content will transfer from each step to the next. The best learning sequences come from arranging instruction in learning hierarchies.

**Hierarchy of mathematics**

I & II grade

**Numerals for computation**

1. Addition
2. Subtraction
3. Multiplication
4. Division

Today, mathematical methods pervade literally every field of human endeavour and play a fundamental role in economising mathematics development of a country. Mathematics has its roots deep in the soil of everyday life and its basic in our highest technological achievements. We use mathematics even in the simplest activities such as counting lumps of sugar for a cup of coffee or adding water for cooking meals. Even though almost everything of a concrete character is mathematics, it is repeated to be and actually is the most abstract and the most hypothetical of sciences. Hence it is but natural that students encounter varied problems in learning mathematics.

At our present our progress towards innovative scientific and technological advancement, we ought to pay more attention on mathematics at all levels of schooling. But Unnoinyang (1999) found that the students’ performance in mathematics at the secondary level has not been improved in the past decade. Rajendran.K.R (2015) also pointed out that the children are very poor in arithmetical calculations and feel highly difficult in facing mathematical problems in various domains.

More studies revealed that various factors have been the causes for the poor performance of students in mathematics. The interest of students in mathematics is related to the volume of work completed, students task orientation and skill acquisition, students personality and self-concept (More, 1973), feeling of inadequacy (Callahan,1971), motivation and self-confidence (Aiken, 1976), anxiety (Aiken, 1970), shortage of qualified mathematics teachers, (Ohuche 1978, Ale, 1989), poor facilities, equipment and instructional materials for effective teaching (Oshibodu, 1984, Akpan 1987, Odogwu, 1994), use of traditional chalk and talk methods, (Oshibodu,1988, Edwards and Knight, 1994), parents` educational background, (Rajendran.K.R,2015) and so on. Wentzel(1998) stated that interest in activities tends to increase the likelihood that individuals formulate goals relating to that activity and invest time and effort to achieve them. Moreover, the change of behaviour, learning is directly corresponded to individual characteristics such as intelligence, cognitive development, and personality which play an important role in learning and instruction as does the context of learning. Few more researches revealed that individual student’s characteristics variables such as motivational orientations, self-esteem and learning approaches are important factors influencing achievement in mathematics. In order to improve the students understanding and outcomes in mathematics and/or school learning, educational psychologists and the teachers of mathematics, have continued to
search for variables (hereditary and encouragement) that could be manipulated in favour of achieving academic goals. Of all the personal and psychological variables that have attracted researchers in this area of educational achievement, encouragement is seemed to be gaining more popularity and leading other variables (Tella, 2003). All the above mentioned causes for the continuous low achievement in mathematics, which have been of primary importance, bear relevant in one way or the other to the poor performance of pupils in mathematics. This has led to a cycle of events that could be illustrated thus: When explaining the illustration above (Aremu, 1998) explained that; when pupils express lack of interest in the subject, it affects the way they react or listen to the teacher. And when many of the pupils believe that they cannot pass, the teacher is also affected.

This may be because of the illiterate and less interested parents, society’s less attention on education, lack of literature, teacher’s poor attitude on students’ education, large students-pupil ratio etc; These may cause him or her to resorts to the easiest way of disseminating knowledge that is ‘chalk and talk’ without the use of instructional materials. He may not also bother to vary his teaching styles to suit individuals; therefore the cycle goes on (Aremu 1998). One unfortunate outcome of this is that, the negative attitude towards mathematics is passed down from one generation of pupils to another and therefore the cycle keeps enlarging. What then could be done to break such a cycle of failure? This has been the question by many mathematics educators and researchers (Akpan 1987, Baya’a 1990). A lot of new and modified old methodologies have been proposed to improve performance in the subject (e.g., Ande, 1990; Akinsola, 1994; Broussard & Garrison, 2004) etc. Instructional materials have also been designed and developed to aid mathematics teaching and learning (Skemp 1989). All these are to help breaking this cycle of poor performance by motivating pupils to learn mathematics. This issued of motivating learners is seen as an important aspect of effective learning. In fact psychologists believe that motivation is a necessary ingredient for learning (Biehler and Snowman, 1986). They believe that satisfactory school learning is unlikely to take place in the absence of sufficient motivation to learn (Fontana 1981). Hall (1989) revealed that there is a need to motivate pupils so as to arouse and sustain their interest in learning mathematics. Agarwal(2004) remarked that the children can learn mathematics when they are taught in an encouraging and appropriate manner. Based on the foregoing, research on Mathematics academic achievement should be considered a continuous process until there is evidence of improvement in interest and performances of the learners in the subject particularly the secondary school students. So that the present study is aiming at finding out the effect of encouragement provided by the teachers, counter parts, parents etc; to the children in learning mathematics.

1(a) Motivation/ Encouragement and Mathematics

In making instruction interesting in learning mathematics, there is need to use methods/strategies and material/media which will make the learning of mathematics, active, investigative and adventurous as much as possible. Such methods also must be ones that take into account, learner’s differences and attitudes towards mathematics as a subject.
2. STATEMENT OF THE STUDY

In order to show the vital importance of encouragement towards the improvement of the children’s interest, attitude and achievement in mathematics, the investigators have taken up the task of finding “The effect of encouragement on the education of the children in learning mathematics in the rural schools”. This is the entitled title of the study here.

3. OBJECTIVES OF THE STUDY

1. To study the importance of encouragement towards the development of students’ interest, attitude on mathematics.
2. To study the importance of encouragement on the children’s achievement in mathematics.
3. To study the significant difference among the background variables viz; gender difference, parents’ educational status, residential nature etc; on the encouragement in learning mathematics.

4. HYPOTHESES OF THE STUDY

1. There is no significant difference in the impact of encouragement on academic achievement of male and female students in mathematics.
2. There is no significant difference in the academic achievement of the children who are belonged to literate and illiterate parents after encouragement.
3. There is no significant difference in the impact of encouragement on the academic achievement of their different residential status viz; hosteller and day-scholars.

5. RESEARCH METHODOLOGY USED FOR THIS STUDY

For this study the investigators used descriptive survey method. For that they selected the children from three secondary schools in rural, remote villages in virudhunagar district. They contacted the heads of the institutions, class teachers and teachers of mathematics of those institutions, delivering the aim of this research and their co-operation in carrying out the test. The investigator adopted the following techniques
i. Pre-test (Diagnostic) at the beginning.
ii. Post-test (Diagnostic) after encouragement/motivation
iii. Comparisons of the scores obtained by the children have been considered for the study.

5.1 Sample

The investigators adopted purposive sampling technique for this study. They considered 20 students from each institution studying 7th standard who showed very poor performance in their school test in mathematics i.e; in and around 25% marks.

5.2 Tools used for the study

i. Consideration of the quarterly test score in mathematics.
ii. Achievement test scores those are highly appropriate for analysis of data which will yield inferences.

5.3 Data gathering procedure
The researchers directly involved in data collection and collected data from the children who showed very poor performance in mathematics in school test. Considering them they conducted a diagnostic test based on their own syllabus initially and then after encouraging them within a gap of a fortnight again a diagnostic test was conducted for the same group. Both scores were considered for the statistical analysis. Totally 60 students from 3 rural schools, 20 from each school were selected for the study.

6. ANALYSIS AND INTERPRETATION

In this study the researchers used inferential statistics to analyse the difference between the two diagnostic test scores and to find out the significant differences between the background variables. The following table is the self-explanatory of influence of background variables on the improvement of the children in mathematics after encouragement/motivation.

<table>
<thead>
<tr>
<th>Background variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>36</td>
<td>22.75</td>
<td>11.92</td>
<td>3.27</td>
<td>7.88**</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>27.25</td>
<td>6.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literate</td>
<td>25</td>
<td>29.80</td>
<td>6.23</td>
<td>3.92</td>
<td>8.60**</td>
</tr>
<tr>
<td>Illiterate</td>
<td>35</td>
<td>21.90</td>
<td>12.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosteller</td>
<td>21</td>
<td>28.90</td>
<td>5.63</td>
<td>4.13</td>
<td>8.78**</td>
</tr>
<tr>
<td>Day scholar</td>
<td>39</td>
<td>26.85</td>
<td>10.71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** denotes significant difference at 0.05 level

From this table it is observed that there is absolutely significant difference between the pre-test and post-test achievement scores in mathematics which gives a result that Encouragement plays a vital important role in the improvement of mathematical achievement of the children. Here also it is witnessed that all the background variables showed better performance in the mathematics achievement test after receiving fruitful motivation/encouragement from various ends viz; teachers, colleagues, unemployed graduate volunteers etc; comparing the mean scores it is found that in both the pre-test and post-test female children scored more than the male children, children of the literate parents scored far better than of the illiterate parents and the hostellers showed better performance than the day-scholars which show that the hostellers received then and there assistance as well as supporting encouraging terms from the warden, seniors and counterparts. As it is the literate parents poured more attention as encouraging than the illiterate parents.

7. FINDINGS OF THE STUDY

1. The children performed better in the post-test (diagnostic) after receiving feed-back, remedial teaching, then and there correction, motivate to do the corrected sums by encouraging optimistic terms than the pre-test (diagnostic).
2. The female children showed better performance than the male children in both tests.
3. The children belonged to literate parents are far better than of their counter parts belonged to illiterate parents in mathematics.
4. The hostellers performed better than the hostellers in mathematics.
5. Saying in toto, this study exhibits that encouragement/motivation has of much importance for the improvement of children in the subject mathematics.

8. RECOMMENDATIONS
1. The children have to be taught using positive and encouraging terms exhibiting few living examples than scolding, teasing and shouting at them.
2. As mathematics is a subject not to be taught but to be understood, it has to be taught step by step.
3. Mathematics teaching using teaching (3D, 2D) devices is of more value.
4. Teaching in ”smart class room” is also of vital importance in rural schools.

9. CONCLUSION
In rural area schools the children are usually expected to get at least pass marks. Even the children or the parents or the teachers are satisfied with the 50% marks normally. They have to be encouraged by comparing the children in city areas, their records and achievements which are helpful for their better future career. As mathematics is a subject to be practised, more number of exercises have to be provided. Then and there corrections and remedial measures have to be carried out by the teachers. As per Hurlock’s theory praising/encouraging terms always yield better results than the controlled or ignored group. So encouraging is highly essential for better education.

10. REFERENCES

To Cite This Paper