Volume : 3 | Issue : 11 | November 2014 • ISSN No 2277 - 8179

Research Paper

# Effect of Performance in Basic Mathematical Operations Among Rural Upper Primary Children

Education

**KEYWORDS :** Basic mathematical operations, performance, addition, subtraction, multiplication, division, selected strategies

**Mrs. M.Kavitha** Ph.D Scholar, Department of Education, Alagappa University, Karaikudi, Tamilnadu.

**Dr.AR.Saravanakumar** Assistant Professor in Education, DDE,Alagappa University, Karaikudi, Tamilnadu.

## ABSTRACT

*In this article we have dealt with the concept of using some strategies to enhance the performance in basic mathematical operations such as addition, subtraction, multiplication and division among rural upper primary children. The strategies are Arithmetic games, Rhymes and Educational activities. The rural upper primary children find it very difficult to do the basic mathematical operations as they were taught in the conventional method of teaching. By giving proper training in basic mathematical operations through the activity based strategies, we can enhance the learners' performance in mathematics. When they become thorough in basic mathematical operations, they themselves get ready to do more complex operations in mathematics. They become more confident than before in doing sums. Continuous practice in these strategies and proper guidance leads to the best performance of the rural upper primary students in basic mathematical operations.*

## INTRODUCTION

Education is the source of knowledge which shows the real way in the various fields of life. Education that is given to students in schools is expected to help them realize their true potential, so that they put it into effective use for their well-being as well as that of their fellow-beings. As there is always a wide gap between expectation and outcome, majority of school-going students never get an opportunity to know or to utilize their true potentials. Since school education has been reduced for coaching students to get through the examinations, the transaction of curriculum in the classroom leaves out a wide range of skills that the students require to master in their subjects.

Reading, Writing and Arithmetic, the three R's as they are called were considered as synonymous with education. Of course the definition of education has changed and modified, the importance of arithmetic remains. Much of the human progress has been possible because of the use of arithmetic and mathematics. The manipulation of numbers helps children to understand various physical and even social phenomena better. Elementary and Primary education is the most crucial period for the physical, intellectual and emotional development of a child. It is, therefore, very important that effective methods of teaching arithmetic are adopted by the teachers (Kavitha M and Dr. AR. Saravanakumar, 2012). It is generally believed that if the arithmetic teaching is improved the general standard of education will generally improve. In the entire system of school education, the most important stake holder is the student. The emphasis of school education is on "learning" and hence the "learner" is at the centre of school education.

## RATIONALE FOR THE STUDY

The effectiveness of the selected strategies will enhance the understanding of basic mathematical operations. The researcher has made an attempt to deal with all kinds of approaches and in particular has selected the strategies as a suitable means to enhance the understanding of the basic mathematical operations among the rural upper primary children. He finds that the selected strategies will be helpful to the students to learn and retain in memory easily and enable them to score high marks in examinations. Hence the study is necessitated.

## NEED FOR THE STUDY

Teaching effectively is the most important of all the competencies required of a successful teacher. Since effective teaching deals with the needs, interest and abilities of pupils and individuals, it requires knowledge of the environment in which the pupil lives, the development problem he or she faces and his/her mental abilities. It is more true so when the teacher is dealing with the slow learners (Kavitha M and Dr. AR. Saravanakumar, 2012). It also calls for an understanding of the learning processes essential for creating an environment where learning can take place and for making instruction so stimulating that every pupil will be motivated to learn. Stimulating pupil to think critically, independently and creatively is essential for effective teaching. The immense knowledge explosion-taking place in students needs unique experience in the presentation of the content. A review of the available research literature showed that studies relating to 'study techniques and their impact on the academic achievement of children' are negligible in number.

Each of the study technique that the above average and high - achieving students revealed has definite steps in it. The utility of these techniques in bringing about improvement in the academic performance has been reported upon by students as feedback. However, the impact of all these study techniques on the learning outcomes of the students of differential ability groups – low achievers, below average, above average and high achievers – is yet to be scientifically investigated. Hence, it is strongly felt that a study of the applicability of these newly evolved techniques of study on students with differential abilities would help them in a big way in making them perform well in the subjects of their study in mathematics in particular.

## SIGNIFICANCE OF THE STUDY

Mathematics is the study of numbers, counting and measuring. Mathematics involves the study of number patterns and relationships, too. It is also a way to communicate ideas, and perhaps more than anything, it is a way of reasoning that is unique to human beings. Mathematics plays a vital role in the modernization of this civilization. It is everywhere and affects the everyday lives of people. Although it is abstract and theoretical knowledge, it emerges from the real world. Mathematics is one of the essential and basic areas of the college curriculum which has a wide field of subject matter. In education, mathematics play an important role. It is the study of numbers the relationship between these number and various operations performed on them (Kavitha M and Dr. AR. Saravanakumar, 2012). It is the science of quantity, size and shape. It is also a way to communicate and analyze ideas, a tool for organizing and interpreting data and above all, perhaps a method of logical reasoning unique to man. The well known study techniques like mnemonics, educational games etc. Have been researched upon and their impact on memory and understanding are well established, whereas the ones which the investigator evolved are based on the interaction of the students and those techniques have to be studied scientifically. Hence, a study that deals with the understanding and use of select study techniques by stu-

dents in learning mathematics and the impact of those techniques on the learning outcomes has become significant to the investigator.

**ASSUMPTIONS**

1. Students find it difficult to perform basic mathematical operations.
2. It is possible to improve their performance in basic mathematical operations.

**OBJECTIVE OF THE STUDY**

To develop, validate and test the effectiveness of selected strategies in improving basic mathematical operations among rural upper primary children.

**MAJOR HYPOTHESIS**

Selected strategies will significantly enhance the performance in basic mathematical operations among rural upper primary children.

**SCOPE OF THE STUDY**

1. Only problems of children in basic mathematical operations will be considered for the research work.
2. The study is restricted to one upper primary class which will serve as the experimental group and another group will serve as the control group.
3. The effectiveness of the select study techniques on the academic achievement in mathematics is to be studied.

**METHODOLOGY**

**Research Method**

The Experimental Research method was adopted to evaluate the effect of the selected strategies programme on the academic achievement of children. Parellel Group Randomized Pre-test – Post-test Design was adopted for this study.

**Sample**

In this study the sample for the study, namely the students of Class VIII studying in the middle schools situated in the Sivaganga District, Tamil Nadu are divided into two groups; the experimental and control. Out of all the schools in the Sivaganga district, 15 schools have been selected randomly. The experiment has a total 160 students. They are chosen randomly from 15 schools which are rural government middle schools. All the VIII standard students from the 15 panchayat union middle schools in the Thiruppattur Union, Sivaganga District. Out of the 160 students, 80 were control group and 80 were experimental group. The control group has a total of 80 students consisting of 40 boys and 40 girls. Similarly, the experimental group has a total of 80 students consisting of 40 boys and 40 girls.

**STATISTICAL ANALYSIS**

The following statistical techniques are used for the analysis of data.

1. Descriptive Analysis
2. Differential Analysis

**FINDINGS OF THE STUDY**

1. The selected strategies implemented in class VIII has significantly enhanced the performance of the students of the experimental group in basic mathematical operations.
2. The selected strategies enhanced the performance of the boys of the experimental group in basic mathematical operations.
3. The selected strategies implemented in Class VIII has significantly enhanced the performance of the girls of the experimental group in basic mathematical operations.
4. The selected strategies implemented in class VIII has significantly enhanced the performance of the students of the experimental group studying in the rural areas in basic mathematical operations.
5. The selected strategies used either singly or a combination of two enhanced the performance of the students of class VIII in basic mathematical operations.

**CONCLUSION**

Effective learning, retention, recall, and success in examinations depend upon the techniques of study the students employ through out their student life. Hence it is imperative that they get to know the techniques from their better performing peers. Wastage in education can be eliminated if each student knows the study techniques suitable for his/her subjects of study.

The classroom transaction should ensure that discussion on study habits, study skills and study techniques form an integral part of curriculum. In addition to knowledge, skills and attitudes, the school curriculum should focus on making students auto-learners so that they are developed into self-dependent individuals capable of taking decisions about their life confidently.

Achievement becomes total as the student gets exposed to these learning sources. Failure to have exposure in any one or a combination of these sources shall result in gaps in learning or faulty learning or incomplete learning. The teachers are duty bound to ensure that their students actualize the educational objectives envisaged by curriculum framers, educationists and philosophers so as to make their existence meaningful and rewarding.

## REFERENCE

Hilberg, R. Soleste; Tharp, Roland G. (2002). Theoretical Perspectives, Research Findings, and Classroom Implications of the Learning Styles of American Indian and Alaska Native Students. ERIC/CRESS, P.O. Box 1348, Charleston, WV 25325-1348. Tel:800-624-9120. | Kavitha, M., and Dr. AR. Saravanakumar (2012), Teaching Arithmetic: Effective and Innovative Strategies for Mathematical Operations, Indian Journal of Applied Research, Vol. II, Issue: 1. | Kavitha, M., and Dr. AR. Saravanakumar (2012), Teaching Strategies for Simplifying Fractions in Mathematics, Indian Journal of Applied Research, Vol. I, Issue: 4. | McNeil, Patrick (2003). Improving Own Learning and Performance. Teaching and Learning. Learning and Skills Development Agency, Regent Arcade House, 19-25, Argyl Street, London W1F 7LS, United Kingdom. | Tyaki. S.K. (2008). Teaching of Arithmetic. India: Sterling Publishers Pvt. Ltd. |