**ACTIVITY BASED TEACHING METHODS IMPLEMENTED BY TEACHERS IN PRIMARY MATHEMATICS**

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# INTRODUCTION

Mathematics is an integral subject of the school curriculum in Sri Lanka. Mathematical knowledge and skills are frequently used in everyday activities. Therefore, having a good understanding on the concepts, principles and basic skills of mathematics has become an indispensable part of life for today's society. Mathematical education is abstracted by the quantitative relations of its mechanisms to understand each and every event in the world. In this context, passing Mathematics at the G.C.E. Ordinary Level Examination is compulsory in Sri Lanka school curriculum organization (2.1 statement, circular no 2008/17, Ministry of Education). Therefore, three stages are established in the education system to achieve this target: primary, junior secondary and senior secondary. In primary stage education, students have to learn basic mathematical concepts and social skills that are necessary for day today activities. As mathematics is a sequential order subject, developing correct knowledge on primary mathematical concepts has an impact upon secondary and higher education. Therefore, it is absolutely necessary to lay a proper foundation at the primary level. The effectiveness of the programs in primary education will support the students to gain necessary learning competencies of primary level and carry on with secondary education without dropping out before or at the end of this primary cycle.

According to the new primary education reforms (1998, 2007, 2017) primary teachers are expected to use appropriate activity based teaching methods to enhance students’ achievement to expected levels (National Committee for Formulating A New Education Act for General Education, 2008,p.81).

However, a survey of Sri Lanka Primary Mathematics Education Project (1999) has shown that most of the primary teachers spend the first 20 minutes of a mathematics lessons, writing on the blackboard and questioning in the classroom. Gunawardana (2002) has pointed out that most of the students are involved in seated academic work. Manomani (2011) has also revealed that teaching methods, such as play based activities and blended activities in primary classrooms are minimally used.

Thus, a more effective mechanism should be taken to improve the attitudes of teachers. Therefore, the timely importance of the matter was one of the causes to implement this research. The purpose of this study was to examine the implementation of activity-based teaching methods in Primary Mathematics (key stage 2). The following objectives were established and achieved in this study.

1. To find out the perceptions of primary teachers on activity-based teaching learning process in Mathematics.

2. To identify the problems faced by teachers in the use of activity-based teaching methods.

# METHODOLOGY

This study was carried out under the two phase survey method. In the first phase, data, which was the perceptions of primary teachers on the activity-based teaching, were collected through a standard questionnaire (Azuka, 2011) which consisted of twenty-five attitude scale questions and four open ended questions. It was pilot tested on 30 primary teachers from the group of internship students of NCOE. The required modification were made prior the same was administered to the research sample of 143 primary teachers from Galle zonal education. Data obtained from the above questionnaire was analyzed quantitatively using Statistical Package of Social Sciences (SPSS). In order to verify the collected data from the questionnaire, focus group interviews were conducted with randomly selected 36 primary mathematics teachers and 30 teachers out of the sample were selected for lesson observation under Gerges (2001) sampling method. As the second phase, transcripts were prepared using field notes and audio records. Data gathered from various sources were analyzed by triangulation and thematic analysis.

# RESULT AND DISCUSSION

It was revealed that 67.1% of the sample was aware of activity-based teaching methods. Seventy two percent of the teachers pointed out that there are many difficulties to implementing the activity-based teaching methods in primary classes. 60.8% agreed that activity-based teaching methods are necessary for an enjoyable learning process. Nevertheless, 70.6% of the teachers in the sample reported that they do not have adequate space in classrooms, materials and resources to implement the activity-based teaching methods in classroom. 55.2% of the sample pointed out that the teacher training courses comprised of adequate training on activity-based teaching methods. Interviews also revealed that the time allocated for a period was inadequate to implement activity-based teaching methods. Five core categories were identified under thematic analysis. In depth analysis of each core-category revealed that most of the teachers made an effort to develop the lesson with the incorporation of activities. Lack of resource and failures of time management were identified as the major hurdle in this situation.

# CONCLUSION AND RECOMMENDATIONS

The conclusions arrived from the study was that the  perception of primary teachers and the skills of implementing activity based teaching methods in primary mathematics have not developed  as expected by the primary educational reforms. Therefore, the curriculum of primary mathematics training programmes, which is used as guidance at present, should be reformed to enhance the skills of teachers on activity-based teaching. And every schools should be provided with a primary mathematics activity room with enough space, all necessary materials and equipment for the implementation of activity based teaching methods.

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***Financial assistance given by the National Institute of Education, Maharagama, Sri Lanka is acknowledged.***

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The new educational reforms emphasize that primary education must be activity based oriented and that it must adopt an enjoyable learning approach. However, the Survey of Sri Lanka Primary Mathematics Education Project (1999) shows that most of the mathematics teachers spend first 20 minutes of a lesson to write on the blackboard and questioning in the classroom. Gunawardana (2002) has pointed out that most of the students are involved in seated academic work. Manomani (2011) has also revealed that teaching methods, such as play based activities and activities in primary classrooms were minimal. The research was conducted against this backdrop. The purpose of this study was to examine the implementation of activity-based teaching methods in Primary Mathematics (key stage 2). The specific objectives of this study were to examine the perceptions of primary teachers on activity-based teaching and identify the issues faced by teachers in the activity-based teaching process in mathematics. This study was carried out under the two-phase survey method. In the first phase, data, which were the perceptions of primary teachers on the activity-based teaching, were collected with the use of questionnaires. Questionnaires were administered to 143 primary teachers of Galle zonal education. It was revealed that 67.1% of the sample was aware of activity-based teaching methods and 50% of the sample said that they used this method consistently. However, 72% of the teachers were viewed that there are many difficulties to use the activity-based teaching methods in primary classes and 60.8% agreed that activity-based teaching methods are necessary for enjoyable learning but only 16.7% of the teachers in the sample reported that activity based teaching methods uplift the interest of students. In the second phase of this study, 30 teachers were selected out of the sample for lesson observation under Gerges (2001) sampling method. Focus group interviews and participant observation were used as methods of data collection and transcripts were prepared using field notes and audio records. Five core categories were identified under thematic analysis. In depth analysis of each core-category revealed that most of the teachers made an effort to develop the lesson with the incorporation of activities. Lack of resources and failures of time management were identified as the major problems towards this situation. This study concludes by identifying the need to organize professional development programs for teachers, to guide them as to the way the interest of students on primary mathematics be increased. It also recommends that necessary resources should be provided.

**Keywords:** Activity -Based Teaching, Enjoyful Learning, Primary Mathematics,

*Financial assistance given by the National Institute of Education, Maharagama, Sri Lanka is acknowledged.*