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# Influence of Active Learning Methodology (ALM) Approach on Mathematical Classroom Climate at Upper Primary Level in Salem District, Tamil Nadu

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***Abstract***

***In India humane education for the whole nation, every child, was possible through a system of small multi-age schools across the nation, run on the strength of individual teachers. In this study objectives were to find out the opinion of ALM approach, four different dimensions with between the respect of male and female, rural and urban, government and government aided school, under graduate and post graduate teachers and work experience (below four years and above four years) at upper primary level. In the present study investigations employed, 'Normative Survey Method' and convenience sample was followed. ALM on mathematics teacher's opinion tool was used. The sample of the study comprised of 39 mathematics teachers selected from four Block Resource Center's (BRC). In this study findings that there is Influence of Active Learning Methodology (ALM) Approach on Mathematical Classroom Climate at Upper Primary Level in Salem District, English Nadu.***

***Key words: Active Learning, Sarva Shiksha Abhiyan, Active Learning Methodology, Block Resource Center.***

## Introduction

In India humane education for the whole nation, every child, was possible through a system of small multi-age schools across the nation, run on the strength of individual teachers. The British studied the monitorial system in India and used their understanding to revive their educational system. The term ACTIVE LEARNING is not new. Teachers, schools and institutions of higher learning have searched for ACTIVE LEARNING METHODOLOGIES. The classroom and the given content are taken. This may be considered faulty by many. But the steps into tomorrow have to lead from what exists now. We cannot imagine schools in entirely new circumstances - different building, teachers, books etc. Whatever methodologies

we choose have to be viable in the present circumstances. Thus the approaches suggested here are those that may find applicability in many circumstances (Gautama G, 2008).

The future is here and it is time to address the new world of knowledge acquisition and present that world to students who will then be prepared to understand the way knowledge is interconnected forging a new generation of students who can lead their country, manage the complexity of their society and give to their lives an appetite for lifelong learning (Willard G. Van de Bogart, 2009).

**Active Learning**

Educators' use of the term "active learning" has relied more on intuitive understanding than on a common definition. Students are doing something in the sense of discovering, processing and applying information. Active learning happens when students are given the opportunity to take a more interactive relationship with the subject matter of a course, encouraging them to generate rather than simply to receive knowledge. Students engage in tasks related to analysis, synthesis as well as to evaluation. Within this context, the basic instructional strategies promoting active learning are to involve students in doing things and thinking about what they are doing.

On a practical level, active learning includes everything from listening practices which help the students to absorb what they hear, to short writing exercises in which students react to reading material, to complex group exercises in which students apply course material to "real life" situations and/or to new problems. In an active learning environment, teachers facilitate rather than dictate the students' learning. Active learning allows students to learn in the classroom with the help of the instructor and other students, rather than on their own (Teacher Training Module 3, 2010).

**Importance of Active Learning**

Thus strategies promoting activities that involve students in doing things and thinking about what they are doing may be called active learning. *Active learning* is *involving students directly and actively in the learning process itself* (Gautama G, 2008).

Today the educators feel that the traditional method of teaching is not sufficient. Because the traditional method has positioned the students as passive receptors in which teachers deposit concepts and information and emphasize rote memory for the students. This method of instruction or teaching is not sufficient to develop the required skills (Ranjanie B, 2012).

**Active Learning Methodology (ALM)**

Bonwell and Eison (1991) state that some merits of active learning are: Students are involved in more than listening, less emphasis is placed on transmitting information and greater emphasis on developing students' skills, students are involved in higher-order thinking (analysis, synthesis, evaluation), students are engaged in activities (e.g., reading discussing, writing), and greater emphasis is placed on students' exploration of their own attitudes and values.

**The Scope of ALM**

The aim of ALM is empowerment of the learner in such a way that he or she is confident and able to function in many contexts. In the middle school years - (classes 6-8) such learning can be blended into the curriculum of any school easily.

**ALM - English Nadu State Government System in India**

In the year 2006, The School KFI introduced after much deliberation, a Pilot Mixed age class initiated for students of classes 5, 6 and 7. This attempt was made following up on a similar change The School made in 1999 for the Junior school, classes 1 to 4. The idea behind these moves was that the individual student needs space in school and also that the peer pressure is not conducive to learning and well being. Sarva Shiksha Abhiyan (SSA) team visited The School KFI in April 2007 and wished to know if there was an approach similar to ABL possible in the Upper Primary classes. After explorative conversations SSA TN invited The School (KFI), Chennai to conduct an 11 - day Workshop for about 60 Block Resource Teacher Educators (BRTEs), in the month of May 2007, to explore the possibility of bringing an active pedagogy into the upper primary classrooms. These workshops were conducted by teachers of The School (KFI) as part of the Outreach work of the school, and introduced to the trainers the possibility of moving towards "ACTIVE LEARNING METHODOLOGIES" in Middle School (ALM). Many of the ideas presented were those that were tried in the mixed age Pilot programme.

The workshop met with wide enthusiasm from the participating trainers. They saw good possibility of introducing this approach in the Upper Primary

schools. Further, Teachers from The School held a five day workshop in July 2007, for BRTEs of SSA TN to generate materials for piloting the new methodology. The workshops outlined conceptual frameworks and introduced strategies that could be used by teachers in the classroom. Teachers of TN, taught by the BRTEs, tried out the suggestions made by the teachers of The School, over the month of June 2007, in 12 Districts at the rate of one Block in each District. Considering the wholehearted reception and response to the approach and methodology from teachers and students, the SSA TN now proposed to scale this up to all the middle schools in the state.

In October, 2007 the TN Govt has issued an order indicating that the for Science and Social studies the ALM methodology should be tried in all schools. There is much work that SSA BRTEs have put in to generate the lesson plans and now the ideas internalized by the trainers have found translation into lesson plans. Teachers from The school KFI have been assisting them in this endeavour (Gautama G, 2008).

**Meaning of Upper Primary Level**

The class 1 to 5 is called Primary Level and 6, 7, 8 classes are called the Upper Primary Level. The classroom is a microcosm of the world. The learner must find opportunities to participate in constructing knowledge. For this process to be effective it must have relevance not only in the classroom but also in the larger world. A child centred classroom shifts the emphasis from teaching to learning. A learner is oriented to learn in any context, be it the textbook, in relationship to the world and people. Active engagement on the child's part; Provides a template for learning, and learning to learn. The child is not subjected to endless passivity Applicable in large classrooms and schools with few teachers. Requires no special aids or special equipment Children can be resources for each other through paired and group activity. The teacher can devote some time to children who need special help. Allow the child to check her/his work against the teacher's and thus save the teacher endless corrections while ensuring accuracy in child's learning. Works at child friendly and realistic assessment formats. The beauty of the process is its simplicity.

**Objectives of the Study**

- To find out the total opinion of ALM approach with between the respect of male and female, rural and urban, government and government aided

school, under graduate and post graduate teachers and work experience (below four years and above four years) at upper primary level.

- To find out the opinion of ALM approach, four different dimensions with between the respect of male and female, rural and urban, government and government aided school, under graduate and post graduate teachers and work experience (below four years and above four years) at upper primary level.

**Hypotheses of the Study**

- There is no significant difference between male and female, rural and urban, government and government aided school, under graduate and post graduate teachers and work experience (below four years and above four years) with respect to their total opinions on ALM approach.
- There is no significant difference between male and female, rural and urban, government and government aided school, under graduate and post graduate teachers and work experience (below four years and above four years) with respect to their opinion on four different dimensions of ALM approach.

**Methodology of the Study**

In the present study investigations employed, 'Normative Survey Method'. This method is collecting and analyzing data, obtained from large number of respondent representing a specific population collected through highly structured.

**Sample of the Study**

A convenience sample technique was followed. The teacher those who teach mathematics in upper primary school were considered as the population of the study. The sample of the study comprised of 39 mathematics teachers selected from four Block Resource Center's (BRC) teachers [ Mecheri (15), Kolathur (16), Nangavalli (3), Omalur (5)] in English Nadu at Salem district.

**Variables of the Study**

The investigator has been selected independent variable - ALM approach at upper primary level and dependent variable - mathematical classroom climate. The demographic variables were sex, school type, locality of the school, teacher qualification, teaching experience (below four years and above four years).

**Tool Construction**

ALM on mathematics teacher's opinion tool was used in this study. The items have been presented in the rating scale with four different responses namely strongly agree, agree, disagree and strongly disagree. On the whole total 62 good items have been included in the pilot form of the tool.

**Pilot Study**

The pilot study was useful for identifying the weak (or) defective items and to reveal needed improvements. 10 Government middle school mathematics teachers are taken for the pilot study. The rating scale consists of 62 items have been administered to those student requested for the investigation. Based on their responses, some particular terms have been included and deleted. The final form of the rating scale consists of forty (40) items to assess the research study.

**Reliability and Validity of the Tool**

The pilot form of the tool constructed by the researcher has been administered on a sample of 27 teachers from the Government middle school mathematics teachers. The responses are as explained below. Numerical values of nature of responses of ALM on mathematics teacher's opinion improvement tool. It is necessary to apply the Spearman-Brown formula to a test that has been shortened, as investigator does in split-half reliability. The significant reliability coefficient is 0.83. The result showed that the scale was highly reliable.

**Data Collection**

For the present study, the Investigator collected the data from upper primary level mathematics teachers in Salem district, by using the rating scale.

**Statistical Techniques Used**

Statistical techniques were the fundamental purpose of the descriptive and differential analysis. The following statistical techniques were used in the study.

- Mean
- Standard Deviation
- 't' test

**Data Analysis and Findings of the Study**

**Table - 1 The total opinion of ALM approach for teachers at upper primary level**

| Variables | Size (N) | Mean | S.D | 't' Value | Level of Significant |
|---|---|---|---|---|---|
| Male | 23 | 120.74 | 10.90 | 0.41 | @ |
| Female | 16 | 122.19 | 10.80 | | |
| Rural | 31 | 121.19 | 10.28 | 0.14 | @ |
| Urban | 8 | 121.87 | 13.15 | | |
| Government School | 29 | 122.89 | 9.43 | 1.33 | @ |
| Government Aided School | 10 | 116.8 | 13.40 | | |
| U.G | 28 | 121.39 | 10.54 | 0.05 | @ |
| P.G | 11 | 121.18 | 11.76 | | |
| Below four years | 15 | 124.27 | 9.95 | 1.40 | @ |
| Above four years | 24 | 119.5 | 11.01 | | |

**Hypothesis-I**

The null hypothesis is accepted. It can be concluded that there is no significant difference between male and female, rural and urban, government and government aided school, under graduate and post graduate teachers and work experience below four years and above four years (table –1) with respect to their total opinions of ALM approach.

@ = no significant at 5 % level.

**Table – 2 The opinion of ALM approach, four different dimensions for teachers at upper primary level**

| Dimensions | Variables | Size (N) | Mean | S.D | 't' Value | Level of Significant |
|---|---|---|---|---|---|---|
| Concept of ALM | Male | 23 | 25.17 | 2.93 | 0.16 | @ |
| | Female | 16 | 25 | 3.44 | | |
| Teacher's Activity | Male | 23 | 49.13 | 4.61 | 0.30 | @ |
| | Female | 16 | 49.62 | 5.29 | | |
| Students Activity | Male | 23 | 23.56 | 3.46 | 1.26 | @ |
| | Female | 16 | 24.87 | 2.99 | | |
| Classroom Climate | Male | 23 | 22.87 | 2.68 | 0.21 | @ |
| | Female | 16 | 22.69 | 2.70 | | |
| | Rural | 31 | 25.06 | 3.11 | 0.14 | @ |
| | Urban | 8 | 25.25 | 3.33 | | |
| Teacher's Activity | Rural | 31 | 49.03 | 4.48 | | @ |
| | Urban | 8 | 50.5 | 6.26 | | |
| Students Activity | Rural | 31 | 24.13 | 3.33 | 0.10 | @ |
| | Urban | 8 | 24 | 3.33 | | |
| Classroom Climate | Rural | 31 | 22.97 | 2.52 | 0.69 | @ |
| | Urban | 8 | 22.13 | 3.23 | | |
| Concept of ALM | Government School | 29 | 25.34 | 2.93 | 0.74 | @ |
| | Government Aided School | 10 | 24.4 | 3.66 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Teacher's Activity | Government School | 29 | 49.55 | 4.46 | 0.41 | @ |
| | Government Aided School | 10 | 48.7 | 6.04 | | |
| Students Activity | Government School | 29 | 24.69 | 3.02 | 1.79 | @ |
| | Government Aided School | 10 | 22.4 | 3.63 | | |
| Classroom Climate | Government School | 29 | 23.31 | 1.91 | 1.57 | @ |
| | Government Aided School | 10 | 21.3 | 3.89 | | |
| Concept of ALM | U.G | 28 | 24.96 | 3.10 | 0.43 | @ |
| | P.G | 11 | 25.45 | 3.27 | | |
| Teacher's Activity | U.G | 28 | 49.57 | 4.41 | 0.42 | @ |
| | P.G | 11 | 48.73 | 6.00 | | |
| Students Activity | U.G | 28 | 24.14 | 3.32 | 0.12 | @ |
| | P.G | 11 | 24 | 3.41 | | |
| Classroom Climate | U.G | 28 | 22.71 | 2.54 | 0.27 | @ |
| | P.G | 11 | 23 | 3.07 | | |
| Concept of ALM | Below four years | 15 | 25.67 | 3.33 | 0.87 | @ |
| | Above four years | 24 | 24.75 | 2.98 | | |
| Teacher's Activity | Below four years | 15 | 50.8 | 5.13 | 1.48 | @ |
| | Above four years | 24 | 48.42 | 4.52 | | |
| Students Activity | Below four years | 15 | 25.13 | 2.67 | 1.68 | @ |
| | Above four years | 24 | 23.46 | 3.54 | | |
| Classroom Climate | Below four years | 15 | 22.67 | 2.35 | 0.25 | @ |
| | Above four years | 24 | 22.88 | 2.88 | | |

@ = no significant at 5 % level.

**Hypothesis-II**

The null hypothesis is accepted. It can be concluded that, there is no significance difference between male and female, rural and urban, government and government aided school, under graduate and post graduate teachers and work experience below four years and above four years (table – 2) with respect to their opinion on four different dimensions of ALM approach.

**Education Implication**

Active Learning Methodology fulfills a long-felt need of re-orientation of the classroom process for upper primary sections towards a child centric approach**.** The magic Active Learning Methodology performs in the classroom has to be seen for believing. The teacher's own role in children's cognition could be enhanced if they assume a more active role in relation to the process of knowledge construction in which children are engaged. A child constructs her/his knowledge while engaged in the process of learning. Allowing children to ask questions that require them to relate what they are learning in school to things happening outside, encouraging

children to answer in their own words and from their own experiences, rather than simply memorizing and getting answers right in just one way - all these are small but important steps in helping children develop their understanding.

**Conclusion**

The shelves are neatly stacked with colourful materials for learning and the children's drawings and paintings, suspended on high strings across the room, flutter colourfully. When given math problems like addition, subtraction and multiplication, the students in the age group of 5 to 6 years come out with answers within seconds using Montessori materials. The children do not merely mug up but understand the concept in this method of learning. Teaching and learning are no more a tiring exercise.

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