



Shift in teaching mathematics to induce interest in secondary schools

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Abstract: Teaching of mathematics is challenge to every teachers to Strengthen the basic knowledge. Mathematics has been taught in classroom is failed to get the desired results in basic concept understanding and also to induce interest in learning mathematics.NEP (2020) proposed the shift in content based learning to make learning meaningful and interesting.Multimodel mathematics teaching strategy(MMTS) is that which creates self learning ,makes learning meaningful , strengthen the basic concept and induce interest in learning mathematics for higher education.

Keywords:Multimodel mathematics teaching strategy(MMTS),Mathematics Interest scale.

Introduction: Mathematics is that gate and key to all science. Mathematician Hogben had commented that “Mathematics is the mirror of development.” Mathematics is important in advancement of the countries by perfecting all science. one who is ignorant of maths cannot know the things in the world. Teaching of mathematics is challenge to every teachers to Strengthen the basic knowledge. Mathematics has been taught in classroom is failed to get the desired results in basic concept understanding and also to induce interest in learning mathematics in higher studies. National Education Commission (1964-66) suggested that, “Science and Mathematics should be taught on a compulsory basis to all pupils as a part of general education during the first ten years of schooling.” National policy on Education (1986)

and N.C.F. (2005) has emphasized the significance of mathematics educations. Therefore, mathematics is a compulsory subject at school level. In November 2017 the National achievement survey was conducted for 3rd 5th and 8th grade students in government and aided schools. The percentage of response was deteriorating across the Nation due to lack of interest in studying mathematics. So NEP (2020) give importance to foundational literacy and numeracy learning that is FLN .since mathematics plays a vital role in developing countries technology .

Multimodel learning is referred as face to face instruction with shift in teaching method in this process students grow in their ability to think analyse and draw conclusions independently. This model supports students in empowering them to become independent learners and learn across the subjects areas.

Definitions

Multimodel is a motivated driven instructional model that assists students to work, to develop the ability to learn independently using several thinking capacity. According to arends [2007] Multimodel learning is the practice of applying various teaching models and connecting those models creatively during a lesson or a teaching unit. wool folk[2008] states that presented information with many models is very useful.

Need of the study

"Experience has shown that the majority of students normally fail in mathematics at the end of class X" (NCERT, 2000). Lack of understanding of the subject would create backwardness and phobia in the students. The result is that the students are not only scared but would also like to shun the subject. There are many reasons for the failure and backwardness in the subject, which have to be tackled from many fronts. Researcher found many students are not interested in learning mathematics due to abstract concept. students study upto the secondary schools after that they choose the course except mathematics. so researcher want to change the concept of difficulty to easy in the secondary schools students. Gradual simplifying the difficulty in learning mathematics from abstract concept to concrete concept to increase academic

achievement and imbibe interest towards mathematics. This is one such way to tackle the problems by application of research results in the teaching learning process.

Objective :

1. To study the effectiveness of Multimodel Mathematics teaching strategy for 9 standard students of government Schools in terms of interest in mathematics.
2. . To study the difference in the effectiveness of Multimodel Mathematics teaching strategy for 9 standard male and female students in terms of interest in mathematics.

Hypothesis:

Hypothesis 1: There is no significant difference between the mean score of pretest in interest in mathematics among the control and experimental group.

Hypothesis 2: There is no significant difference between the mean score of posttest in interest in mathematics among the control and experimental group.

Hypothesis 3 : There is no significant difference between the mean score of pretest and post test in interest in mathematics among experimental group.

Statement of the problem: Shift in teaching mathematics to induce interest in secondary schools.

Methodology : The investigator used experimental method in research study. In order to achieve the above objectives, experimental group is taught by MMTS and control group is taught by traditional method.

Sample: Investigator selected 202 students of government school studying in IX standard schools situated in rural and urban places of Bhadravathi taluk. Both Kannada and English medium schools students are taken as sample for study using stratified random technique.

Tools: Tools used in the present study are

1. Multimodel mathematics teaching strategy developed by Investigator.

2. Mathematics interest scale developed by Dr uma Tandon and Ashok pal.

Statistical Technique used: The investigator used statistical technique like mean, standard deviation, and t-test for the analysis and interpretation. IBM spss-21 package is used for analysis

Analysis and interpretation:

Testing of hypothesis

Hypothesis 1: There is no significant difference between the mean score of pretest in interest in mathematics among the control and experimental group.

Table 1 Mean, S.D and t-value of pretest in interest in mathematics among the control and experimental group.

| Types | N | Mean | S.D | t-value |
|--------------|-----|-------|--------|---------|
| control | 100 | 89.31 | 13.562 | 1.774 |
| experimental | 102 | 85.51 | 16.694 | |

Not significant at 0.05 level ,t-statistical 1.97

A pretest in interest towards mathematics was conducted for experimental and control groups and the scores were obtained. It can be observed from the table that the obtained t-value of the experimental group for their interest towards mathematics is found to be 1.774. This value is not found to be significant at 0.05 level of significance. Therefore there is a no significant difference in the mean scores of the interest towards mathematics of pretest of the experimental and control group .This indicates that the students before teaching has not interested in learning mathematics. Hence the null hypothesis is accepted that is “There is no significant difference between the mean value of pretest in interest in mathematics among the control and experimental group”.

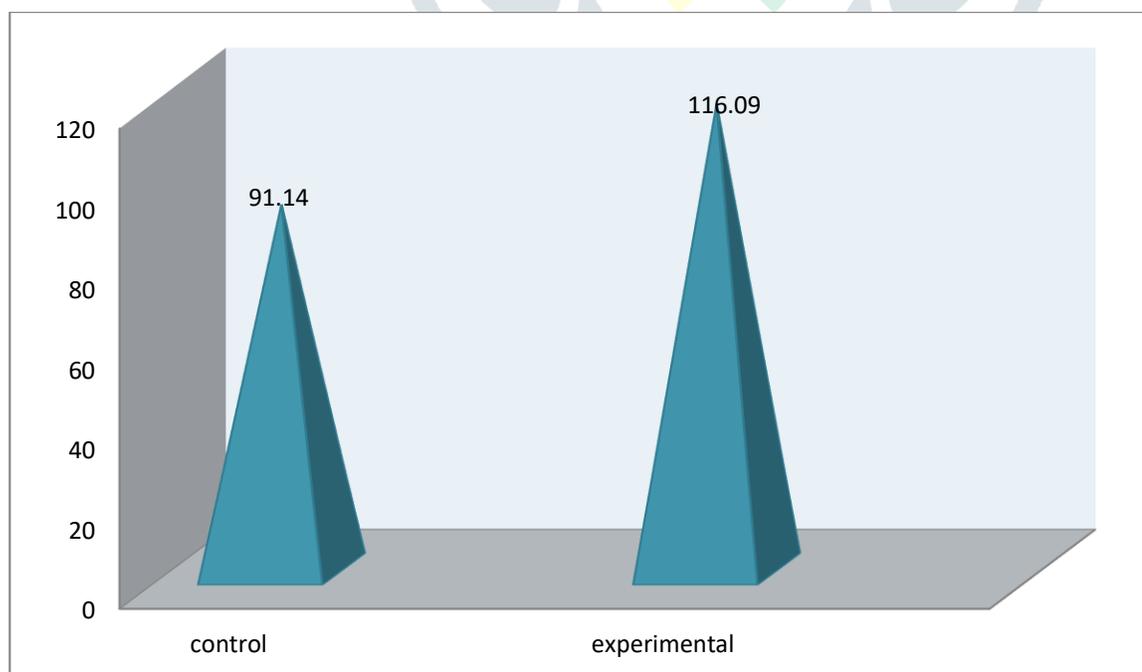
Hypothesis 2: There is no significant difference between the mean score of posttest in interest in mathematics among the control and experimental group.

Table 1 Mean, S.D and t-value of posttest in interest in mathematics among the control and experimental group.

| Types | N | Mean | S.D | t-value |
|--------------|-----|--------|--------|----------|
| control | 100 | 91.14 | 12.252 | 16.999** |
| experimental | 102 | 116.09 | 8.265 | |

Significance at 0.01 level,t-statistical 2.60

A posttest in interest in mathematics was conducted for experimental and control groups and the scores were obtained. It can be observed from the table that the obtained t-value of the experimental and control group for their interest towards mathematics is found to be 16.999. This value is found to be significant at 0.01 level of significance. Therefore there is a significant difference in the mean scores of the interest of the control and experimental groups. This indicates that teaching of mathematics using multimodel mathematics teaching strategy has a significant impact on the student interest in mathematics. Mean score of experimental group is higher than control group. Hence the null hypothesis is rejected and the alternative hypothesis is that “There is a significant difference between the mean score of posttest in interest in mathematics among the control and experimental group”. is accepted. This is graphically represented on graph 1



Graph1is showing the post test mean score difference of experimental and control groups

Hypothesis 3 :There is no significant difference between the mean score of pretest and post test in interest towards mathematics among experimental group.

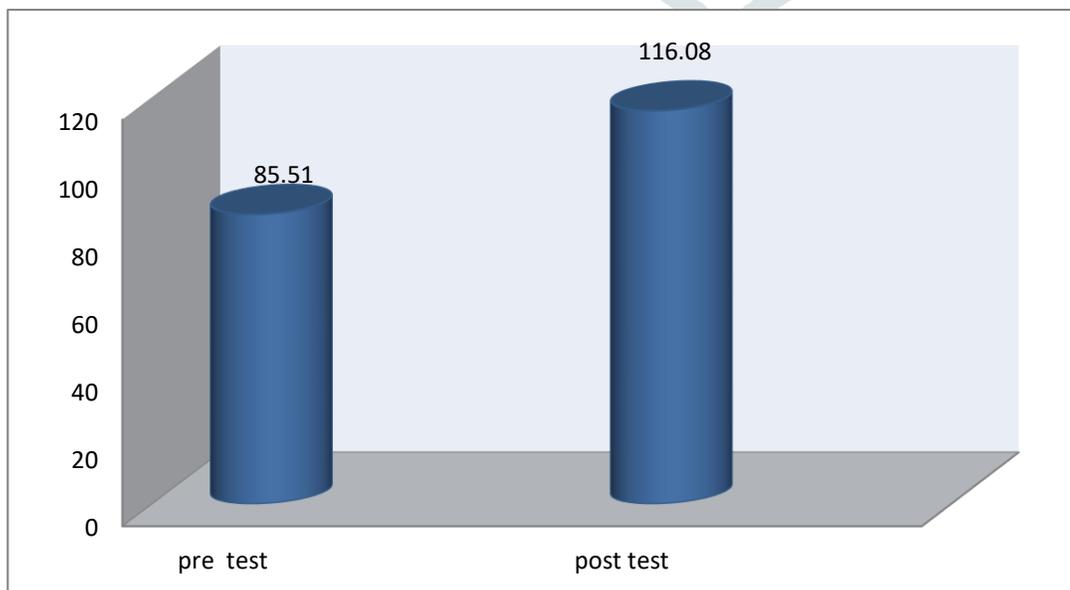
Table 2: Mean, S.D and t-value of pretest and post test in interest in mathematics among experimental group.

| Types | N | Mean | S.D | t-value |
|-----------|-----|--------|--------|----------|
| pretest | 102 | 85.51 | 16.694 | 18.198** |
| post test | 102 | 116.08 | 8.265 | |

Significance at 0.01 level,t-statistical 2.63

A pretest and posttest for interest in mathematics was conducted for experimental group and the scores were obtained. It can be observed from the table that the obtained t-value of the experimental group for their interest in mathematics is found to be 18.198. This value is found to be significant at 0.01 level of significance. Therefore there is a significant difference in the mean scores of the interest in the pretest and posttest experimental group. This indicates that teaching of mathematics using multimodel mathematics teaching strategy has a significant impact on the student interest in mathematics. Mean score of post test is higher than pretest. Hence the null hypothesis is rejected and the alternative hypothesis is that “There is a significant difference between the mean score of pretest and post test in interest towards mathematics among experimental group”. is accepted. This

is graphically represented by graph 2



Graph 2 showing pretest and post test in interest in mathematics among experimental group.

Findings of the study:

In the present study investigator want to find the significant difference between interest towards mathematics among control and experiential group. Researcher found that experimental group has significant difference in mean scores in the interest in mathematics. This indicates that Multimodel mathematics teaching strategy has a significant impact on students academic achievement and also interest in mathematics. Teaching through the multimodel mathematics strategy has induce interest in learning mathematics. Both male and female students of experimental group have same interest in learning mathematics.

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