

# EFFECTIVENESS ON TEACHING MATHEMATICS OF THE IN-SERVICE TRAINEES AT THE ELEMENTARY LEVEL IN CUDDALORE DISTRICT

Dr. (Mrs). A. Gracy

*Asst. Professor, Pope John Paul II College of Education, Pondicherry*

## ABSTRACT

*The goal of our government is to provide equal opportunity to all and it will remain as day dream unless problems associated with regular classroom are not overcome. It is a very difficult task for the teacher to take care of each and every student in a heterogeneous classroom. It is impossible for a teacher to teach every individual according to his pace of learning and level of understanding in a limited time of period. This article primarily focuses on the effectiveness on teaching mathematics of the in-service trainees at the elementary level by adopting an experimental design with a sample from in-service trainees at the elementary level from two DIETS and by testing the framed hypotheses it is proved that there exists a positive relation among the experimental group than the control group.*

**Key words:** *Effectiveness, Teaching mathematics, in-service trainees and elementary level*

## INTRODUCTION

The World Book Encyclopedia describes teaching as “the process by which one person helps others achieve knowledge, skills and aptitudes. One of the standard dictionaries in the field of Psychology describes teaching as “the art of assisting another to learn”. It includes “providing of information (instruction) and of appropriate situations, conditions or activities, designed to facilitate learning.” A Committee of American Educational Research (**Bellack, 1963**) defines teaching as a “form of interpersonal influence, aimed at changing the behavior potential of another person.” Since teaching is a practical activity, something one can identify and watch it would be possible to find out what teaching is, by observing what teachers do (**Thomas F.Green, 1971**). It is useful to think of teaching as involving the simultaneous performance of three tasks: (a) maintaining the classroom learning environment, (b) providing learning experiences, appropriate to the changing needs of individual pupils and (c) implementing those experiences in which the teacher is an active participant (**Micael J. Dunking ed., 1987**). Teaching effectiveness refers to how well a teacher performs the task of teaching in a classroom. The subtle difference between teaching effectiveness and teacher effectiveness has been brought out by **Medley, 1982**. He suggests that teacher effectiveness is to be defined and assessed only in terms of behaviours of pupils and not of teachers. Teacher competence is conceived of as

repertoire of teacher's knowledge, skills and beliefs, which are referred to as 'competencies'.(Borich,1977).

## OBJECTIVES

1. To find out whether there is any significant difference between the teaching effectiveness of the pre and the post-assessments of the control group
2. To find out whether there is any significant difference between the teaching effectiveness of the pre and the post- assessments of the experimental group

## HYPOTHESES

1. There is no significant difference between the teaching effectiveness of the pre and the post- assessments of the control group.
2. There is no significant difference between the teaching effectiveness of the pre and the post- assessments of the experimental group

## METHOD OF STUDY

This study adopts Pre test-post test control group design

### Research tools

Mathematics Teaching Effectiveness Scale

## SAMPLE OF THE STUDY

The researcher selects two different DIETS' from South Tamilnadu region based on purposive random sampling technique

## STATISTICAL TECHNIQUES USED

This study utilizes descriptive analysis

**Teaching Effectiveness of both the Control and the Experimental groups in their pre-assessment.**

Group	N	Mean	S.D	C.V	Maxm. Score	Minm. Score	Mid value	Mean Difference
Control	18	90.72	6.57	7.22	175	0	87.5	6.44
Experimental	18	97.44	5.37	5.54	175	0	87.5	

The teaching effectiveness of the control and the experimental group in the pre-assessment were analyzed using descriptive statistics. The mean and standard deviation of teaching effectiveness scores in the pre-assessment of the control group is found to be 90.72 and 6.57 respectively for N=18. The mean and standard deviation of teaching effectiveness scores in the pre-assessment of the experimental group is found to be 97.44 and 5.37 respectively for N=18. The coefficient of variation of pre-assessment of the control and the experimental groups are found to be 7.22 and 5.54 respectively.

The mean difference of 6.44 is in favour of experimental group. That is, the Experimental group becomes more consistent in their teaching performance than the Control group. It is portrayed by the following diagram (Fig5.2)

**Teaching Effectiveness of both the Control and the Experimental groups in their progressive-assessment.**

Group	N	Mean	S.D	C.V	Maxm. Score	Minm. Score	Mid value	Mean Difference
Control	18	105.28	6.35	6.05	175	0	87.5	19.44
Experimental	18	124.72	5.91	4.73	175	0	87.5	

The teaching effectiveness of the control and the experimental group in the progressive-assessment were analyzed using descriptive statistics. The mean and standard deviation of teaching effectiveness scores in the progressive-assessment of the control group is found to be 105.28 and 6.35 respectively for N=18. The mean and standard deviation of teaching effectiveness scores in the progressive-assessment of the experimental group is found to be 124.72 and 5.91 respectively for N=18. The coefficient of variation of the progressive-assessment of the control and experimental groups are found to be 6.05 and 4.73 respectively which reveals that the performance scores of the experimental group got improved than the control group during the treatment of Interactive Multimedia Courseware package .

The mean difference of 19.44 is in favour of the Experimental group. It is also found that the C.V. of the Experimental group is comparatively less. It is therefore concluded that in the teaching effectiveness, the Experimental group performed more effectively than the Control group. It is implied that the Interactive Multimedia Courseware prepared for the study is effective in training the teacher trainees.

**Teaching Effectiveness of both the Control and the Experimental groups in their post-assessment**

Group	N	Mean	S.D	C.V	Maxm. Score	Minm. Score	Mid value	Mean Difference
-------	---	------	-----	-----	-------------	-------------	-----------	-----------------

Control	18	119.05	7.49	6.29	175	0	87.5	35.45
Experimental	18	154.50	8.21	5.30	175	0	87.5	

The teaching effectiveness of the control and the experimental groups in the post-assessment were analyzed using descriptive statistics. The mean and standard deviation of teaching effectiveness scores in the post-assessment of the control group is found to be 119.05 and 7.49 respectively for N=18. The mean and standard deviation of teaching effectiveness scores in the post-assessment of the experimental group is found to be 154.50 and 8.21 respectively for N=18. The coefficient of variation of post-assessment of the control and the experimental groups are found to be 6.29 and 5.30 respectively which reveals that the post-assessment scores of the experimental group is highly improved than the control group.

## EDUCATIONAL IMPLICATIONS

The results of the study have proved that the Mathematics teaching competency level decides the level of achievement among elementary trainees. Hence, it is recommended to utilize this math teaching competency at the elementary level. Since the use of mathematics teaching effectiveness scale penetrates more deeply into the development of human cognitive system, it would help them to be best teachers of mathematics at the elementary level.

## CONCLUSION

In the light of the research findings, it is felt that the present research may contribute to the alleviation of the transactional competencies of student-teacher. Teaching competency was found to be effective in learning Mathematics. This has also been realized by many educational experts; hence, there is an urgent need to gear national efforts towards the implementation of this innovative strategy in learning Mathematics

## REFERENCES

1. <http://www.cseindia.org/>
2. <http://www.flexiblelearning.net.au/>
3. [http://www.griffith.edu.au/\\_data/assert/pdf\\_file/0014/61502/Net-generationproject.pdf](http://www.griffith.edu.au/_data/assert/pdf_file/0014/61502/Net-generationproject.pdf).
4. <http://www.wschool.net/>
5. [http://www.educationindia.net/download/rforum/Research\\_Abstract.pdf](http://www.educationindia.net/download/rforum/Research_Abstract.pdf)