

Effectiveness of Microteaching on Pedagogical Design Capacity of Prospective Teachers

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ABSTRACT

Teacher education is a purposeful program that grooms the teachers to improve the proficiency and competence in their profession. The main objective of this investigation was to find out the effectiveness of microteaching on pedagogical design capacity of prospective teachers. A randomly drawn sample of 46 prospective teachers enrolled in B.Ed. program at Government College for elementary teachers, formed the subjects of the study. As an experimental study, they were equally divided into two groups; experimental and control randomly. Six core skills: set induction, explaining, reinforcement, questioning, gesturing and closure were identified. The experimental group was provided eight-week pedagogical skill development program on microteaching method; while the control group was engaged in teaching by using traditional method. Following eight week Pedagogical skill development program the researcher and two others supervisors observed performance of both the groups in the classroom. Two appraisal sheets General Teaching Competence Scale (GTCS) and Microteaching Competence Observational Sheet (MCOS) were used to evaluate the performance of both groups. *t* – test and ANCOVA were used to analyze the data. 02 null hypotheses were tested to measure the effectiveness of microteaching. Results of the study showed that micro teaching method was significantly better as compared to traditional method of teaching. Major recommendations included, revisiting teacher training curriculum; setting up micro clinics in training institutions; engaging teacher associations in action research and developing linkage system with pioneering international institutions in microteaching.

KEYWORDS: Teacher Education, Microteaching, Teaching Skills, Pedagogical Design Capacity, Prospective Teachers.

1. INTRODUCTION

Teacher education is a purposeful program that grooms the teachers to improve the proficiency and competence in their profession. It eventually enables them to meet on the ground requirements and to address the forthcoming challenges. Knowledge-based training is the basic objective of teacher education program which students have undertaken before they enter a formal profession. During intensive pre service program prospective teacher learn to acquire knowledge and skill to formulate lessons to teach their students. Specific expertise, skills and comprehension is pre-requisite for teaching career and prospective teachers must acquire such skills to perform their duty. Prospective teachers must get training to learn these skills and art to educate learners usefully before going to their fieldwork[16].

Micro Teaching is a technique used in the training of teachers where the candidate teaches a small lesson 5 to 7 minutes in front of small number of participants and classmates in fully structured and controlled environment. It is an effective technique to teach a small lesson in front of small class before teaching whole class in real to improve the training of teachers. Moreover, in teacher education, it is a useful choice to teach a lesson [2]. Microteaching is a method that strengthens the teachers to acquire new skills in the light of received feedback. In the development of teaching skills microteaching is a useful method and we can avoid many mistakes in teaching by using this. It is useful to be aware of necessary behaviors of teaching and increases the confidence of teacher candidates[1].

Dwight Allen and Robert Bush of the Stanford University first coined the term microteaching in 1963. A number of experiments have been conducted in USA, UK and Netherlands. [15]. A survey was conducted in the US recently, on teacher training programs using microteaching method. Result declared that microteaching is used in

secondary education. And about 150 universities and colleges were using this method of microteaching in teaching programs and 50 institutions were using microteaching for the training of in-service programs [1].

A teaching skill can be defined as behavior which can be observed or the main activity that the teacher must employ in teaching in order to effectively push the child to the point, an idea or thought. The use of the skill range both narrow as is the case when talking about the interrogation capacity, demonstration of skill, etc., and in a broader sense, when, for example, talks about the lesson plan, and organize content more meaningfully to the learner[15]. Effective teaching really depends on the mastery of teaching skills. Teachers provide various lists of teaching skills based on the results of their research.

Following skills were identified and selected for microteaching skill development program.

Skill of set induction: It implies brief and brisk introduction of the lesson. This skill links previous knowledge with the present knowledge. It is known as the skill of set induction.

Skill of reinforcement: The main theme of the skill is that encouraging remarks of the teacher increases and discouraging remarks decreases the pupil-participation and the development of the learning process.

Skill of explaining: It refers to the use of explaining or connecting learning. It connects what, why, when and how of learning new knowledge.

Skill of probing questions: These are short questions put to pupils. It is science for evolving a system, knowledge beyond. It is art how to do it, an action oriented. The student is not giving any response.

- The answer may be wrong based on misconception.
- The answer they give may be partially right and partially wrong.
- The response may be correct.

Dealing with these different situations is tricky and is the essence of teaching skill regarding dealing with questions. If the students are not giving the response to the question or their response is not correct, it means they do not have the concept of the thing being discussed.

Skill of gesturing: It emphasizes body-language. It means use of appropriate gestures and positions by teacher. If a teacher does not change his gesturing and position during teaching process, the students may lose interest.

Skill of closure: It means to finish teaching task. When a pupil-teacher delivers lecture and concludes or ends up in a proper way in an attractive way, the skill is termed as closure skill. In absence of proper closure, the lesson remains ineffective[14].

Pedagogical design capacity deals with teachers' proficiencies and capability to identify and motivate educators' self-assets; comprehension, values, uniqueness and orientations, and exterior resources of curriculum to give directions and coaching material according to teaching aims and objectives. It is linked with the procedure that educators make them busy in field experience by discussing their orientation and thinking, the teaching tools, classroom characteristics and school environment[11].

Knowledge-based training is the basic objective of teacher education program which students have undertaken before they enter a formal profession. During intensive pre service program prospective teacher learn to acquire knowledge and skill to formulate lessons to teach their students. It is recognized that motivation, compassion and competition of teacher is the basic requirement/criteria to judge the worth and scope of learners [16].

Teachers, themselves are part of the program as curriculum, textbooks, periodicals unit and newsletters. However, it is expected that schools are those training centers where learners build up their perception about life experiences through immense and concentrated interaction with their classmates and teachers [3]. It is commonly thought to look at the teachers merely as transmitters of knowledge and skill. But they are facilitators in the learning process and as creators of a favorable learning environment. Recently, teachers have moved from theoretical approach focused on the teacher to the student-oriented practice. To provide effective education and self-regulation teachers must be trained in teaching skills and strategies to provide effective education and self-regulation in a full academic culture [10].

In Pakistan, elementary colleges are providing pre-service teacher training under B. Ed. Program. These are considered as prospective teachers. Following training and entering the profession, prospective teachers encounter various types of problems regarding teaching. Especially in Social Sciences, they face several difficulties in arranging curriculum material and their personal resources to enhance the teaching learning process. Microteaching is a technique to develop teaching skills required for effective teaching. In this study, effectiveness of micro teaching method was assessed against the development of pedagogical design capacity of prospective teachers.

1.1 Objectives of the study

Following were the objectives of this study:

1. To investigate the effectiveness of microteaching method on developing skills under pedagogical design capacity of prospective teachers.

2. To find out the effectiveness of instructions based on Micro Teaching method and traditional method on prospective teachers' skills development.

1.2 Research hypotheses

Following null hypotheses were formulated to study the effectiveness of microteaching in developing pedagogical design capacity of prospective teachers;

H01: There is no significant difference in the mean scores of experimental and control groups on developing the skills of pedagogical design capacity of prospective teachers when GTCS was controlled as a covariate.

H02: There is no significant difference between the experimental and control groups on the mean scores on teaching skills when GTCS was controlled as a covariate.

2. METERIALS AND METHODS

This was an experimental study. 'true-experiment', is a type of experimental design where the researcher has a great leverage and control over the study, mainly in the form of selecting the participants and randomly assigning participants and/or events into two or more study groups[9].33 elementary colleges situated in the Punjab province in various districts. In Rawalpindi Government college for elementary teachers was selected keeping in view the time constraints and resources for this study. All B.ED male and female students enrolled in Government College for Elementary Teachers Rawalpindi, were taken as the sample of this study using universal sampling technique. In control group 09 male and 14 female prospective teachers 23 in total were participated. In experimental group 10 male and 13 female teachers with total of 23 were participated. So, the sample consisted of 46 regular B. Ed students.

Table 1: pretest post-test control group design

Groups	Number of participant	Pre-test	Treatment	Post-test
Treated group	23 (Randomly selected)	MCOS	Treatment with micro teaching	MCOS
		GTCS		
Control group	23 (Randomly selected)	MCOS	Traditional teaching	MCOS
		GTCS		

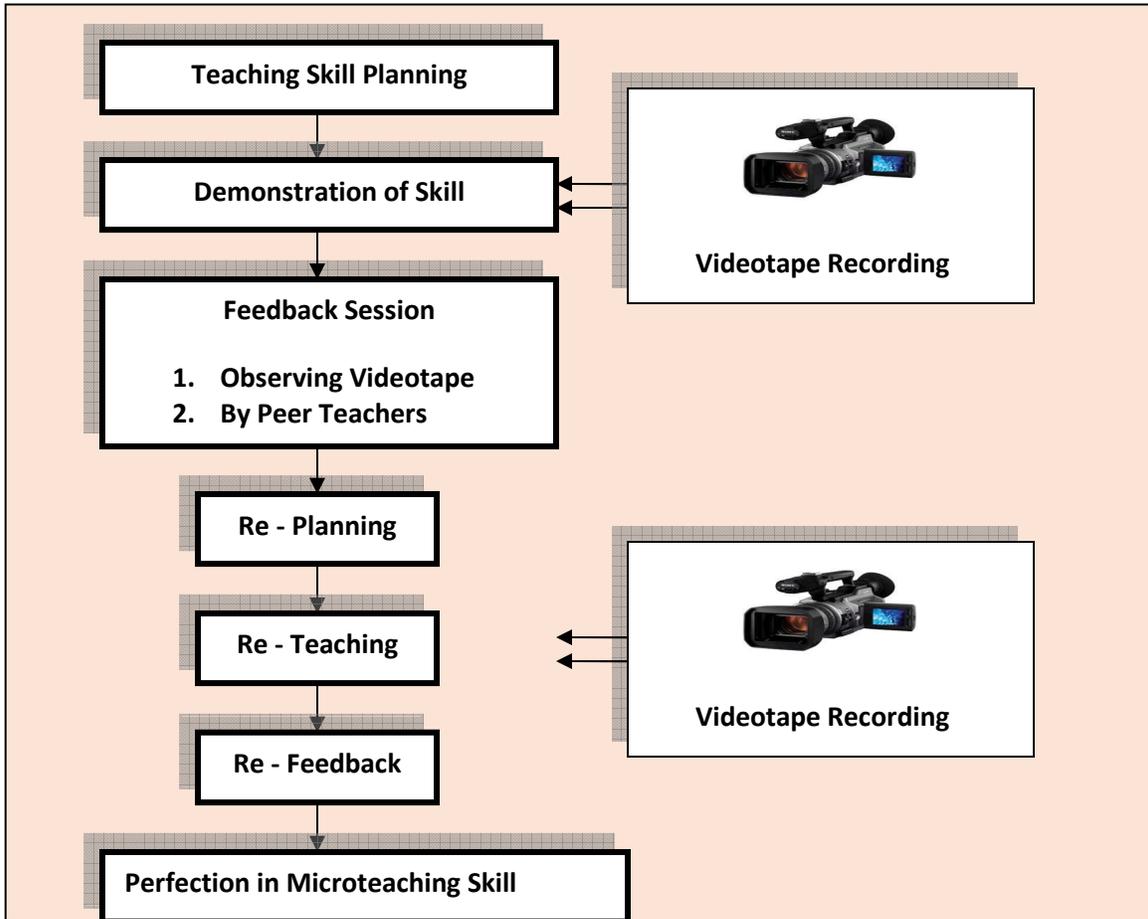
2.1 Research instruments

Two instruments were administered to collect the data from respondents. Following are the detail of instruments;

1. General Teaching Competence Scale (GTCS)
2. Microteaching Competence Observation Sheet (MCOS)

2.2 Procedure

In the present study, micro teaching was used to develop the pedagogical design capacity in prospective teachers and six core skills were selected from review of related literature. For this purpose both male and female students of B. Ed. Classes were selected from Government College for Elementary Teachers. For assessing the general skills of prospective teachers a General Teaching Competence Scale (GTCS) was administered to ensure the same level of participant. But after the analysis of the scores obtained from this test, the experimental group was better than control group. So, this test was used as covariate in the present study. MCOS observational check list was administered as pre-test to ensure the previous knowledge of participants about the pedagogical design capacity. These tests were administered 2 weeks before the experiment. Researcher conducted 2 cycles of microteaching for acquiring the required skills in this study. After the experiment MCOS as post-test was administered to both groups to measure the development of pedagogical design capacity in group A (Treated group) through micro teaching. This microteaching model is graphically sketched out as below:



(Figure 1: Model of Microteaching Khalid 1982)

3. RESULTS

For measuring the effectiveness 2 null hypotheses were constructed. Analysis of Covariance and t-test was applied to analyze the data. The analysis of data is presented in the following section:

Table 2: Summary of Analysis of Covariance (ANCOVA) & t-test on pre-tests of GTCS & MCOS

Inferential Statistics	"f" Value	"t" Value	"p" Value
GTCS	1.626	2.634	.012
MCOS	.237	.745	.460

Inferential statistics was used on pre-test of GTCS&MCOS. GTCS shows that there was a significant difference in the mean score of experimental group ($p = .012$, $t(44) = 2.634$, $f = 1.626$). Teachers of experimental group had more teaching competence and they performed better in General Teaching Competence Scale as compared to control group. It showed that participants of both groups were not equal in their teaching competence that is way to control this variable GTCS was taken as covariate.

MCOS shows that there was no significant difference in the mean scores of experimental group ($p = .460$, $t(44) = 7.45$, $f = .237$). Experimental group showed equal results as control group so, both groups were equal with respect to pre-test.

H01: There is no significant difference in the mean scores of experimental and control groups on developing the skills of pedagogical design capacity of prospective teachers when GTCS is controlled as a covariate.

Table 3: Summary of Analysis of Covariance (ANCOVA) on post-tests (Group)

Inferential Statistics	"f" Value	"p" Value
Groups	82.023	.000

Inferential statistics was used on post-test results. Table 4.3 shows that there was a significant difference in the mean score of experimental group, $f(1, 43) = 82.023, p = .000$. So, experimental group performed better as compared to control group in developing pedagogical skills of prospective teachers. Thus, **H01**: There is no significant difference in the mean scores of experimental and control groups on developing the skills of pedagogical design capacity of prospective teachers when GTCS is controlled as a covariate was rejected.

H02: There is no significant difference between the experimental and control groups on the mean scores on teaching skills when GTCS is controlled as a covariate.

Table 4: Summary of Analysis of Covariance (ANCOVA) of teaching Skills

Teaching Skills	"f" Value	"p" Value
Set Induction	23.9	.000
Reinforcement	13.46	.001
Explaining	13.52	.001
Questioning	26.6	.000
Gesturing	17.7	.000
Closure	22	.000

Inferential statistics was used on teaching skills. Experimental group shows better results than control group ($f(1, 43) = 23.09, p = .000$). So, experimental group performed better as compared to control group in developing the skill of set induction. Experimental group showed better results than control group ($f(1, 43) = 13.46, p = .001$). So, experimental group performed better as compared to control group in developing the skill of reinforcement. Experimental group shows better results than control group ($f(1, 43) = 13.52, p = .001$). So, experimental group performed better as compared to control group in developing the skill of explaining. Experimental group showed better results than control group ($f(1, 43) = 26.63, p = .000$). So, experimental group performed better as compare to control group in developing the skill of questioning. Experimental group showed better results than control group ($f = 17.1, p = .000$). So, experimental group performed better as compared to control group in developing the skill of gesturing. Experimental group showed better results than control group ($f(1, 43) = 22.09, p = .000$). So, experimental group performed better as compared to control group in developing the skill of closure. Thus, **H02**: There is no significant difference between the experimental and control groups on the mean scores on teaching skills when GTCS is controlled as a covariate was rejected and results shows microteaching technique is effective technique for developing the teaching skills in prospective teachers.

4. DISCUSSION

The first objective of the present study was to investigate the effectiveness of microteaching method on developing skills under pedagogical design capacity of prospective teachers. Result of the study shows that microteaching is an effective method for skill development in prospective teachers. The treatment group was provided instructions through microteaching skill development program by recording their performance in video tape. They were provide feedback through three approach; video tape recording (self- evaluation), peer teachers and the supervisors. Some previous studies endorse the results and all were agreed upon these three approaches of feedback [13] [12] [4].

The second objective of the study was to find out the effectiveness of instructions based on Micro Teaching method and traditional method on prospective teachers' skills development. Results of the study clearly indicating the mean difference between microteaching and traditional teaching that shows effectiveness of microteaching in skill development program of prospective teachers. Some previous studies on the effectiveness of microteaching pointing out that learning one specific skill through microteaching is useful in a safe environment. It allows the teacher educators to try out a number of different techniques that could be used in a single teaching context. Previous studies indicating microteaching is a very famous teaching method in skill development [6] [17][18] [7] [8].As a result, it was evident that microteaching method was more effective in capacity building of prospective teachers.

5. CONCLUSIONS

Microteaching method was found an effective method for prospective teachers for the development of basic teaching skills i.e. skill of set induction, skill of reinforcement, skill of questioning, skill of explaining, skill of gesturing and skill of closure. It is concluded that instructions provided to experimental group was effective. It was found that micro teaching method was more effective as compare to traditional method of teaching. Microteaching skill development program was regarded an effective method for prospective teachers of practicing the teaching skills.

6. RECOMMENDATIONS

On the basis of conclusions drawn from the experimental results of the study, following recommendations were generated for promotion of Microteaching program in teacher training structures. A micro teaching clinic may also be setup in each elementary college, and selected Central Schools, to provide exposure to the trainees and the working teachers, together with innovative interventions on regular basis. As an experimental study, results of present investigation are restricted to the sampled population. However, structures of teacher training colleges in Punjab, and the country as a whole, are common. The curriculum and instructional material, intake level of teachers, modes of training and assessment are nationally structured. Some studies in micro teaching, both in Pakistan and in typological context, have yielded positive results. Therefore, the results of this study, supported by similar findings, can conveniently lead to generalizability.

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