

# Effects of Microteaching on the Pre-Service Teachers' Teaching Competence – A Case in Bhutan

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## ABSTRACT

Microteaching, an efficient teacher training technique, provides teachers an opportunity to enhance their teaching competencies. This study explored the effects of microteaching on the teaching skills of the pre-service teachers at a college of education in Bhutan. The study pursued a mixed mode of research methodology adopting a quasi-experimental pretest-posttest design. A sample of 64 Bachelor of Education (B.Ed.) second year students were selected to participate by clustered random sampling. The students received microteaching guidance from a team of four tutors including the researcher. The data source included teaching skills assessment, assessment of the analysis report, and students' reflective journal. After performing satisfactory validity and reliability checks, the quantitative data assembled from pretests and posttests and reflective journals were analyzed and interpreted using t-test with  $p < 0.05$  level of significance, mean, standard deviation and descriptive statistics frequency. Qualitative data was analyzed based on the grounded theory of Strauss and Corbin (1998). Analysis from the teaching skills assessment analysis report and student's reflective journal revealed that microteaching not only improved the teaching skills of the pre-service teachers but also enhanced their confidence in general.

**Keywords:** *microteaching; analysis report; teaching skills; pre-conference; post-conference, feedback*

## INTRODUCTION

The current issue of the perceived decline in the quality of education in Bhutan has induced a change in policy. The Ministry of Education introduced Dr. Spencer Kagan's transformative pedagogy on cooperative learning structure in Bhutan. The driving force behind the new pedagogical orientation was that the ministry felt conventional teaching methods, practiced across the schools in Bhutan, failed to take care of learning abilities of the students (Wangdi, 2016). This brave assertion, although without any empirical evidence, seemingly challenged the current pedagogical orientation and the art of teaching which is certainly attributed to pre-service training avenues offered by the two teaching colleges; namely Samtse College of Education (SCE) and Paro College of Education (PCE). Almost all the teachers received their pre-service training from the two teaching colleges.

The paucity of research studies to validate the effectiveness of pre-service training program offered at these colleges has encouraged the ministry to embrace transformative pedagogical practice, adopted from Dr. Spencer Kagan's collaborative learning structures, overtly. Hence, an immediate study on the effectiveness of pre-service training program at the two colleges of education is imperative to validate or offer a varied perspective while such initiatives, as aforementioned, are apparently being pursued, nationwide.

PCE and SCE offer multiple modules including Learning Process, Introduction to Research Methodology, Creative Arts, Teaching Skills, Teaching Strategy, Curriculum Studies, to name a few, in order to prepare the pre-service teachers for their roles in the classroom. However, the art of teaching cannot be determined by the students' performance in these modules. "The classrooms cannot be used as a learning platform for acquiring primary teaching skills" (Remesh, 2013; p. 158). A student who excels in these modules may not necessarily possess the best teaching competence. Therefore, a study on the core skill training practice like microteaching would guarantee a valid result that ought to determine the effectiveness of the pre-service teachers' training programme at the two colleges of education, in Bhutan. The current study on the 'Effect of Micro Teaching on the Pre-service Teachers' Teaching Competence – a Case in Bhutan' will offer a broader perspective to multiple stakeholders, at large.

## **LITERATURE REVIEW**

### **Definitions of Microteaching**

Microteaching is an efficient teacher training technique that plays a pivotal role to enhance the teaching skills of pre-service teachers. It is a technique aiming to prepare teacher candidates for the real classroom setting (Brent & Thomson, 1996; Uzun, 2012). It is considered an innovative approach to pre-service teacher education training since its initial introduction in the early 1960s (Ostrosky et al, 2013). According to Amobi (2005), microteaching is a technique employed to train pre-service teachers to master specific skills in a teacher education program. Similarly Uzun (2012) describes it as a teaching technique especially used for teacher trainees to train them systematically by allowing them to experiment important teacher behaviours. Ananthkrishnan (1993) defines it as:

A vehicle of continuous training process applicable at all stages not only to teachers at the onset of their career but also for more senior teachers who are already in the teaching field (p. 143).

In many teacher education programs, the use of microteaching has expanded from its original focus of helping preservice teachers to master discrete teaching skills, to giving them the complete teaching experience (Amobi, 2005). Through the microteaching experience, both pre-service and in-service teachers rectify specific errors and progress in their ways of teaching.

### **Significance of Microteaching**

Microteaching is an effective means of improving teaching skills that shape pre-service teachers' teaching skills. With the proven success among the pre-service and in-service teachers, it helps to promote real-time teaching experiences (Remesh, 2013). It focuses on sharpening, developing, and enhancing the learner-teachers' confidence. With the help of microteaching practice, teacher candidates experiment and learn teaching skills by breaking them into smaller parts and varied components (Uzun, 2012). The core skills of microteaching such as presentation and reinforcement help pre-service teachers to improve their teaching skills to the maximum extent. He and Yan (2010) in their study on exploring authenticity of microteaching in pre-service teacher education programmes endorsed microteaching as an efficient tool for the pre-service teachers' professional development.

Fernandez (2012) in his study on 'Learning Through Microteaching Lesson Study in Teacher Preparation' concluded that microteaching is an efficient tool in improving the teaching skills of the pre-service teachers. The study investigated microteaching lesson study (MLS), an experience based on a successful Japanese lesson study. A qualitative analysis of various data sources was conducted, demonstrating the learning and perceptions of 36 prospective teachers

to be very beneficial. Beyond providing teaching experience, the MLS facilitated enhancement of their understanding of reform-oriented teaching and knowledge of subject matter through collaboration with peers and feedback from an instructor. Feedback was found to be the key element in enhancing overall teaching competence of the teacher candidates.

### **The Role of Feedback in Microteaching**

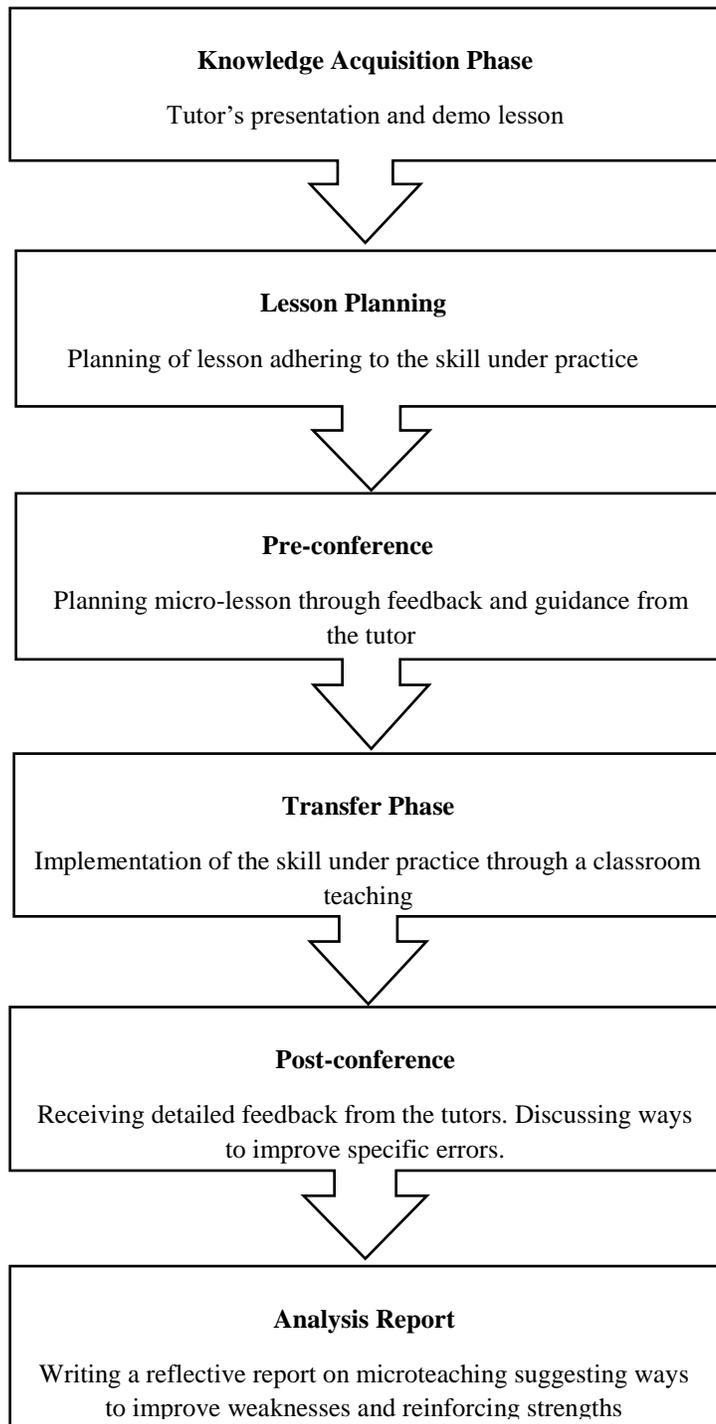
Microteaching provides skilled supervision with an opportunity to accommodate constructive feedback (Ananthakrishnan, 1993) and feedback provided play a pivotal role in enhancing the pre-service teachers' skill by enabling them to pursue a reflective teaching experience. Using microteaching and feedback helps educators become better teachers (Re, 2008). Microteaching scales down the complexities of real teaching as immediate feedback can be sought after each practice session (Remesh, 2013). These feedback opportunities enable them to reflect on their strengths and rectify their errors, thereby enhancing their overall teaching skills. This methodological process also offers them opportunities for discovering and reflecting on both their own and others' teaching styles, at the same time enabling them to learn about new teaching techniques (Wahba, 1999). While instilling teaching skills in pre-service teachers through such practice, reciprocal negotiation of the students actively presenting and watching the performances make a great contribution to the acquisition of the skills (Taşdemir, 2006; Uzun, 2012).

## **THE CONCEPTUAL FRAMEWORK**

According to Choeda and Kinley (2013), teaching skill is a professional module offered at the two colleges of education in Bhutan to develop the pedagogical knowledge and skills of the student teachers. Owing to its significance in enhancing the teaching skills of the teacher candidate, microteaching, as a part of the teaching skill module, is practiced at the two colleges of education in Bhutan.

### **Microteaching at SCE**

Microteaching, at SCE, is practised as an integral part of the teaching skills module. The main emphasis is placed on the performance aspect of the skills in microteaching situations, and to facilitate the professional development process in the art of teaching. It aims at strengthening the pre-service teachers' professional development through constant self-analysis/reflection, and feedback through observation in a microteaching situation (Dukpa, et al, 2013). The process of microteaching involves six phases as shown in Figure 1.



**Figure 1:** SCE Microteaching Model

After understanding the concepts and components of each core teaching skill, the participants prepare a micro-lesson for each core teaching skill, and implement one skill in each microteaching session in a sequential manner. As shown in Figure 1, the SCE microteaching model adheres to six varied phases. In the first phase, a team of microteaching experts (tutors) take turns to present each of the core teaching skills with a showcase of a demo lesson. This is the knowledge acquisition phase where the learners observe the skill, analyse its objectives and methodology. Once the learners have acquired enough information and understanding, they plan a lesson and meet the tutors for pre-conference.

During the pre-conference, the tutors and learners explore the superior ways to teach effectively. The tutors provide corrective feedback and guide the learners adhering to the skill under practice. This phase eventually leads to the transfer phase where the learners implement the core teaching skills through a classroom teaching session. The tutors will cautiously observe, analyse and record the strengths and weaknesses of the micro-teacher on the skill assessment form. During the post-conference the tutors will initially ask the learners to reflect on their microteaching. Subsequently, the tutors provide constructive feedback suggesting ways to correct specific errors and reinforce their strengths. The final phase involves analysis report writing where the learners write a detailed report of their microteaching. This is a reflective piece which enables the learners to make commitments through reflective writing.

## **OBJECTIVES OF THE STUDY**

There are two objectives of the study as shown below:

1. to investigate the effect of microteaching on pre-service teachers' teaching skills; and
2. to study the change in pre-service teachers' teaching competence using analysis report writing exercise.

## **MATERIALS AND METHODS**

### **Research Design**

The study pursued a mixed mode of research methodology adopting a quasi-experimental pretest-posttest design and a reflective journal with an aim to assess the effects of microteaching practice on the teaching skills of the pre-service teachers. According to Ponce and Pagan-Maldonado (2014) "a mixed method study is research intentionally combining or integrating quantitative and qualitative approaches as components of the research" (p. 113). Similarly, Johnson and Onwuegbuzie (2004) define mixed-method research as the class of research where the researchers combine quantitative and qualitative research technique, methods, approaches, concepts or languages into a single study. They justify that mixed-method research techniques are likely to provide superior research findings and outcomes.

### **Sampling**

The researcher adopted cluster random sampling to select 64 pre-service teachers from the B.Ed. second year secondary program. Microteaching, as an integral part of the teaching skills module, is practiced during the second year of the B.Ed. secondary program at SCE.

## **Research Instrument**

### ***Intervention Instruments***

#### *Demonstration of Eight Teaching Skills by the Tutors*

Four tutors, including the researcher, presented instructional lectures on the nine teaching skills practiced at SCE. The nine teaching skills practiced during the microteaching sessions are Introductory Procedures & Closure and Classroom Use of Language, Giving Instruction for Organizing Learning Activities, Instructional Objectives & Lesson Planning, Questioning and Handling Pupil's Responses, Use of Teaching-Learning Materials, Stimulus Variation: Interaction Variation, Teaching of Concepts and Generalizations, Teaching of Skills and Procedures and Teaching of Values and Attitudes. The tutors also performed demo-lesson sessions for these teaching skills.

#### *Presentation on Reflective Analysis Report Writing by the Researcher*

The researcher, also the co-tutor for microteaching, taught the participants how to write a reflective analysis report. The researcher also showed a sample of a good reflective analysis report and discussed in detail with the participants.

#### *Pre-conference, Post-conference and Microteaching Observation*

Before performing their microteaching on varied teaching skills, participants were assigned to meet their respective tutors and discuss their lesson plans in detail. The tutors provided feedbacks and guidance. They also planned their microteaching lessons with support and guidance from the tutors. The participants then performed their microteachings and the respective tutors observed their microteaching, listing down their strengths and weakness in the teaching skills observation form. As soon as the microteaching was done, participants had to meet the tutors for post-conference where the tutors provided relevant feedbacks and discussed the ways to improve specific errors and reinforce the strengths.

### ***Data-Collection Instruments***

Data were collected by employing the following tools:

#### *Teaching Skills Assessment (Pretest and Posttest)*

Pre-test and post-test of classroom teaching using a standard assessment tool that incorporated all the components of teaching skills was conducted. Each core teaching skill was assessed out of ten marks. The pre-test was conducted before the first microteaching session and the post-test was conducted after the final microteaching session. The assessment tool incorporating the nine components of teaching skills are shown in Table 1.

**Table 1:** Assessment form for assessing the teaching skills during the microteaching

<b>Skill No.</b>	<b>Teaching Skills</b>	<b>Total Score</b>	<b>Marks Scored</b>
1 <sup>st</sup> Skill	Instructional Objectives & Lesson Planning	10	
2 <sup>nd</sup> Skill	Introductory Procedures & Closure and Classroom use of Language	10	
3 <sup>rd</sup> Skill	Giving instruction for organizing learning activities	10	
4 <sup>th</sup> Skill	Questioning and handling pupil's responses	10	
5 <sup>th</sup> Skill	Use of Teaching Learning Materials	10	
6 <sup>th</sup> Skill	Stimulus Variation: Interaction Variation	10	
7 <sup>th</sup> Skill	Teaching of Concepts and Generalizations	10	
8 <sup>th</sup> Skill	Teaching of Skills and Procedures	10	
9 <sup>th</sup> Skill	Teaching of Values and Attitudes	10	
	Total	90	

*Assessment of the Reflective Analysis Reports (Pretest and Posttest)*

The researcher taught the participants how to write an effective analysis report. A standard rubric to assess the analysis report was developed. The first analysis reports written by the participants were assessed and compared to the final analysis report which were assessed based on the same standard. The two reports were compared and analysed using paired sample t-test.

*Reflective Journal*

The participants were asked to maintain three reflective journals. The guidelines to write the reflective journal were provided. The participants maintained the first reflective journal after the first microteaching session. The second reflective journal was maintained after the fourth microteaching session and the final reflective journal was maintained after the microteaching session on the ninth skill.

## **VALIDITY AND RELIABILITY OF RESEARCH INSTRUMENTS**

### **Validity**

The research instruments were validated by three experts including two senior professors/researchers, and a senior microteaching expert from Samtse College of Education, Royal University of Bhutan. Item Objective Congruence (IOC) of the instruments was calculated to see if the items aligned with the learning objectives. IOC was computed for the achievement test and analysis report.

IOC results index range from -1 to +1. If the rating is +1, it means that the item clearly matches stated objectives. If the rating is 0, it means that item is unclear or there is uncertainty whether the measures meet the objectives or not. If the rating is -1, it means that the item clearly does not match the objectives or that the measures do not meet the stated objectives. Each item is acceptable and considered valid when the index in the IOC range is 0.67 to 1.00 and unacceptable if the range is below 0.67 to -1.

The formula for calculating the IOC is  $\frac{\sum r}{n}$  where; 'r' is the sum of the scores of individual experts and 'n' is the number of experts.

### **Reliability**

The achievement test was tried out with a section of B.Ed. third year pre-service teachers who were undergoing teaching practice at varied middle and higher secondary schools. This group of students had already practiced microteaching during their B.Ed. second year secondary program. The same teaching skills assessment form was used for the reliability test group. Kuder-Richardson formula KR-20 was computed to find out the reliability coefficient of the learning achievement test. It was estimated at 0.79.

## **RESEARCH PROCEDURES**

After performing satisfactory validity and reliability checks, a pre-test was conducted. The pre-test was conducted using a standard assessment form based on all the components of teaching skills. Over the period of five months, students were taught nine different teaching skills by the respective tutors. Alongside, the researcher briefed the student on the guidelines to write the reflective journal and analysis report. The first analysis report of each student was assessed using a standard assessment form and the marks were recorded. At the end of the treatment, post-test for the teaching skills was conducted and the final analysis report was also assessed using the same assessment form.

## **DATA ANALYSIS AND DISCUSSIONS**

### **Analysis of Teaching Skills Assessment and Analysis Report Test Scores**

The comparison between the pretest and posttest scores were done by conducting paired sample t-test to assess and compare the teaching skills and analysis reports of the students after the microteaching practice.

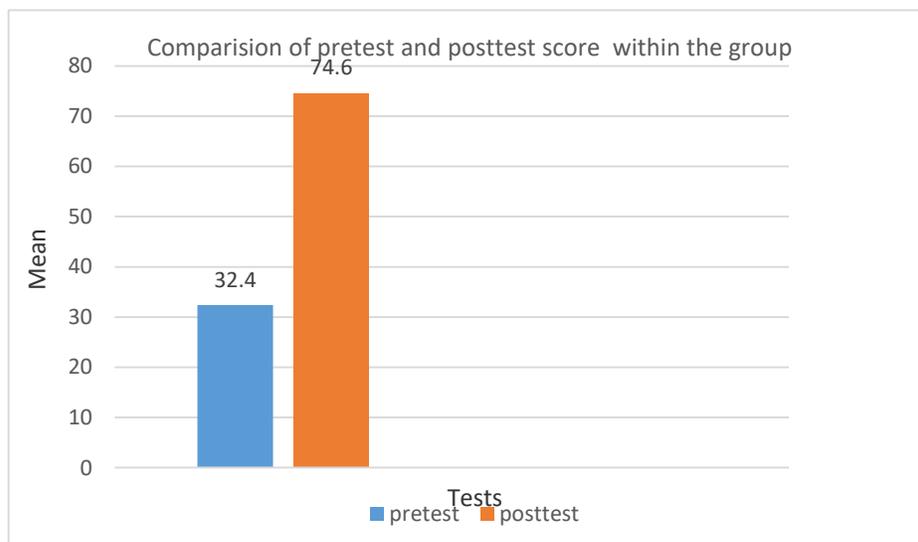
The inferential statistics t- test with  $p < 0.05$  level of significance was used to infer the results.

**Table 2:** Comparison of Pretest and Posttest within the group (Paired sample t-test)

Group	Test	Mean	Mean difference	Standard deviation	Sig. (2 tailed)
Teaching Skills	Pretest	32.4	74.6 – 32.4 = 42.2	1.85	0.00
	Posttest	74.6		1.96	
Analysis report	Pretest	14.8	23.5 – 14.8 = 8.7	1.98	0.00
	Posttest	23.5		2.02	

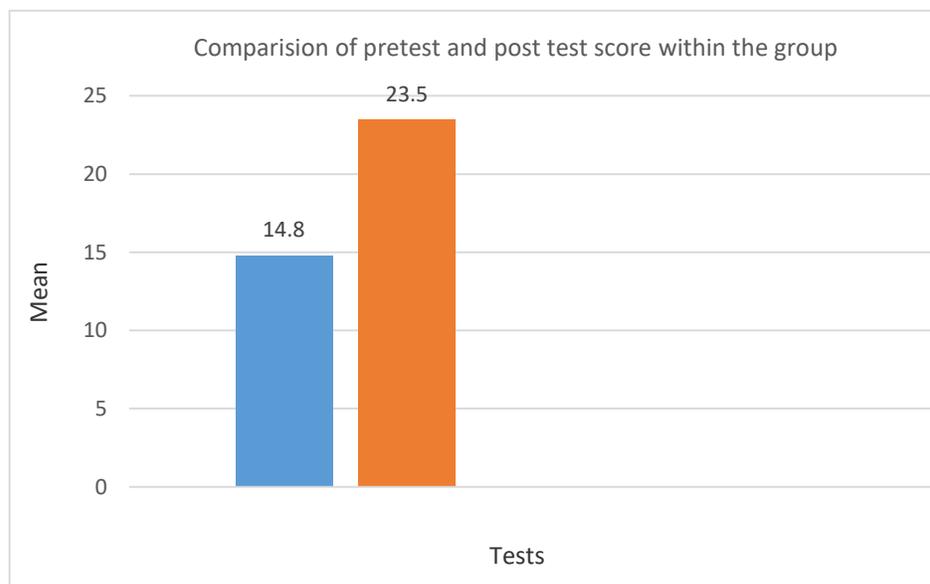
\*Significance level:  $P < 0.05$ -significant

The comparison of pretest and posttest within the group for teaching skills assessment and analysis report was done by comparing mean, standard deviation, and significance level P-value. From the data shown in Table 2 above, and Figure 2 below, it is noted that in case of the teaching skills assessment, the mean of the pretest and the posttest scores of the participants were 32.4 and 74.6, respectively. The full mark of the test was 90. The mean difference of pretest and posttest was 42.2 resulting in the significance value (p) 0.00 which indicated there was statistically significant increase in the students' scores in the posttest when compared to the pretest. This indicated that the microteaching played a pivotal role in enhancing the teaching skills of the participants. The comparative difference in the marks scored during the evaluation of the teaching skill assessment is clearly depicted through a graphical representation in Figure 2.



**Figure 2:** Comparison of Pretest and Posttest score of teaching skills within the group

Similarly, in case of the assessment of the analysis report, it is evident from Figure 3 below that the mean of the pretest and the posttest scores of the participants were 14.8 and 23.5, respectively. The full mark of the test was 30. It is clearly evident from Figure 3 that the mean difference of the pretest and posttest was 8.7 resulting in the significance value (p) 0.00 which indicated that there was statistically significant increase in the students' scores in the posttest when compared to the pretest. The improvement in the analysis report writing showed that students were able to reflect well on their teaching skills practice and write a good analysis report. The positive result on analysis report assessment induced a positive outcome in microteaching performance. Therefore, a distinct inference, through this analysis, is maintained that an improvement in the analysis report writing engendered a positive result on the overall assessment of the teaching skill performance. The mean shown in Figure 3, below, exhibits a positive difference in the pretest and posttest score of analysis report writing; therefore, explicitly validating the earlier inference.



**Figure 3:** Comparison of Pretest and Posttest score of analysis report within the group

Moreover, the analysis of the standard deviation validates the result of this study. The standard deviation describes the amount of variation in a measured process characteristic. Specifically, it computes how much the data deviates from the mean on average. A smaller standard deviation means greater consistency, predictability and quality (Wachs, n.d; Dorji, 2017 & Wangchuk, 2018). In the case of teaching skills assessment, the standard deviation of the mean of pretest was 1.85 and that of the posttest was 1.96. Although the standard deviations showed a slight difference (0.11), it indicated that the level of variation in scores of the pretest and posttest were almost similar. This further indicated that the learning ability of the students were similar, leading to a greater quality assessment. Consistency in the students learning ability engenders a valid outcome which is more reliable than inconsistencies observed in a sample group (Dorji, 2017).

## **Analysis of Students' Reflective Journal**

Data from students' reflective journals were analyzed using grounded theory as proposed by Strauss and Corbin (1998). The coding process included three levels of analysis: open, axial, and selective coding. In case of open coding, data obtained from the journals were systematically organized. When the data were identified and categorized, axial coding was used. Selective coding was used to categorize the data and interpret three core themes. The major themes concluded from the students' reflective journals were; 1) Gaining Confidence, 2) Improved Classroom Use of Language, and; 3) Introductory Procedure and Closure. They are presented below.

### *Gaining Confidence*

The majority of the participants noted that microteaching practice helped them in gaining confidence. Practicing varied skills of teaching with consistent support and guidance from the tutor has improved their confidence level and inspired them to teach better. They shared their common view that the improvement in their confidence level has enabled them to organize effective instructional strategies and deliver effective classroom lessons. They also believed that microteaching experience has not only improved their classroom teaching skills but also their interpersonal skills which, they believe, shall play an instrumental role in their lives.

### *Improved Classroom Use of Language*

Microteaching experience has enhanced one of the most important teaching skills "Classroom Use of Language" of the participants. Most of the participants agreed that their classroom usage of language has improved significantly because of the constant feedback from the tutor. The tutor ensured that participants practice the skill of effective classroom usage of language in every microteaching practice. Hence their speaking skills improved. Many participants realized the importance of right choice of words, tone of voice, and articulation in teaching. Respecting their students' opinions, empathetic response to inquiry and the values of "right speech" are the overriding skills which they learned through the microteaching practice.

### *Introductory Procedure and Closure*

The skill to introduce a lesson by drawing students' attention, developing new lessons by relating it to the previous lessons, engaging the students in active learning participation and closing it professionally by revising the entire lesson was the most important skill that the participants learned through the microteaching practice. The participants mentioned that prior to the microteaching practice, they did not know how to introduce a lesson, let alone developing the lessons and closing the lesson in a professional way. Now some of the students even believe that they have apparently mastered the Introductory Procedure and Closure which is considered as an important skill that an effective teacher possess.

The conclusion drawn from reflective journals construed that microteaching had enhanced the overall teaching skills of the teacher-candidates enabling them to gain confidence, improve their classroom usage of language, and improve the most overriding teaching skill known as Introductory, Procedure and Closure.

## **CONCLUSION**

The first objective of the study was "To investigate the effect of microteaching on pre-service teachers' teaching skills at SCE." In order to realize this objective a standard teaching skills

assessment with a pretest and posttest design was employed. The posttest of the teaching skills assessment revealed that using microteaching to enhance the overall teaching skills of the student teachers was very effective. The results of the mean, standard deviation, and significant P-values generated by computing paired sample t-test explicitly showed that microteaching proved effective in enhancing the overall teaching competence of the pre-service teachers. There was a huge difference in posttest marks of the teaching skills assessment compared to its pretest as the average score in the posttest had increased by 42 marks compared to its pretest. Thus the primary objective of the study “To investigate the effect of microteaching on pre-service teachers’ teaching skills at SCE” was achieved. The result was further reinforced by students’ reflective journal where many students revealed that the microteaching helped them mostly in gaining confidence, improving their classroom usage of language, and their mastery over the skill of Introductory, Procedure and Closure.

The second objective was “To study the change in pre-service teachers teaching competence using analysis report writing exercise.” In order to realize the second objective a standard rubric to assess the analysis report was developed. The first analysis reports were assessed and maintained as the pretests and the final analysis reports were assessed and maintained as the posttests. The two reports were compared and analysed through a comparative statistical analysis using paired sample t-test. The mean difference of 8.7 explicitly indicated that the participants were able to reflect the strengths and weaknesses of their microteaching practice and thereby produce a good analysis report. Consequently, a significant increase in the posttest marks of analysis report writing was followed by a consequential increase in the posttest marks of the teaching skills performance. Therefore, a distinct inference, through this analysis, is maintained that an improvement in the analysis report writing engendered a positive result on the overall assessment of the teaching-skill performance.

The findings of this study was similar to the findings of Benton-Kupper (2001) who in his study on ‘The Microteaching Experience: Student Perspectives’ concluded that microteaching experience was a very effective method of learning and mastering the art of teaching. Similarly Kilic (2010) concluded that microteaching showed a progress in teacher candidates’ teaching behaviors on the subject area, planning, teaching process, classroom management, communication, and evaluation. Since the results of the study confirmed that microteaching was effective in developing the pre-service teachers’ teaching competencies, the colleges of education are recommended to use microteaching as a pivotal tool in enhancing the overall teaching skills of the students. The colleges of education can make reference to the findings of this research in order to validate the effectiveness of the teaching skills module and offer a new perspective to the ministry of education and other stakeholders.

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