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Effect of reflective instructional technique on the performance of trainee physical education teachers

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Abstract

The purpose of this study was to investigate how trainee physical education teachers' performance was affected by reflective instructional technique. Purposive sampling was used to choose the female trainee physical education teachers (N=40) for the experimental study at Bandarawela National College of Education in the province of Uva, Sri Lanka. Each of the selected subjects was randomly divided into two equal groups. Group I (Experiment Group, n=20) participated in the teaching module program for six weeks, lasting 40 minutes per session. Group II functioned as the control group and had a n=20 size. Before and after the experiment, the chosen subjects underwent the rubric-level test to analyze the sixteen criterion variables. The pre-test and post-test mean values for the experimental group and control group were examined using the mixed ANOVA test. In all the cases 0.05 level of confidence was fixed to test the significance. The findings showed that all of the criterion factors had a significant difference. All criteria factors were positively impacted by mean differences. The mean difference between the experimental and control groups was 0.18 and 0.98, respectively, with $p < 0.05$ indicating a significant difference for each indicator. The results showed reflective instructional technique enhanced the performance of trainee physical education teachers. In order to provide future teachers with an expanded and broad understanding about the importance of reflective teaching practices, the study recommends to conduct additional research related to reflective instructional technique.

Keywords: Reflective instructional technique, teacher performance, physical education, trainee teachers

1. Introduction

The career of teaching is quite a demanding profession. The need to emphasize the teaching profession's more "intellectual" facets cannot be overstated. However, as a certified educator (or even as a student educator), you are solely expected to use your own professional judgment. The ability to develop one's own judgment and problem-solving skills within one's own unique educational situation is made possible by what would be considered a fair expectation. It is nonetheless useful to presume that teachers are aware of or have some experience with the reflective process. It assumes that teachers have a framework within which to weight their options and select any suitable course of action.

Reflective thinking requires methodical and intentional action through ongoing self-examination, in which teachers thoroughly examine their classroom experience using a cyclical approach to high-quality learning and teaching style.

Mirzaei *et al.*, 2014^[18] mentioned that Reflective teacher education can be used to tackle both the preservice teacher preparation program and in-service professional development in different ways. The reflective practitioner infuses new life into the classroom by challenging, inspiring, and inspiring the students. Instruction practice is a useful method in advanced education where teachers evaluate the progress of their instruction using their observations and experience. When a person deliberately and frequently considers a similar practice or experience in order to increase its success or significance, that person is doing the act of reflection.

Reflective practice can enhance instruction, but there is less agreement on what it truly comprises and how it differs from attending seminars or training sessions focused at strengthening instruction or curriculum development.

Any "Teacher Education Programme" has as its primary objective examining the gaps between theory and practice. In earlier eras, it was believed that preparation and delivery skills were all those trainee teachers really needed. The activities involved in education nowadays are more complex, advanced, competitive, and focused on achieving certain objectives. Various subjects call for particular teaching strategies.

Therefore, using a range of instructional tactics, controlling the classroom environment, developing and utilizing evaluation tools, integrating technology, and grabbing students' attention are all now essential components of a teacher's job. They ought to evaluate their own instructional strategies and welcome helpful feedback from others. It motivates educators to assess their own instructional strategies. Through the teaching modules, critical and creative thinking abilities, classroom management skills, and self-reflection are fostered. Reflective teaching practices are also examined in relation to the performance of aspiring physical education instructors. Reflective teaching practice is a key component of teacher education. It motivates teachers and students to develop a variety of talents. However, it's likely that teachers won't be able to put all of their reflective skills during their practicum. Therefore, their reflective teaching practice should be strengthened even further.

This research design to help out trainee Physical Education teachers to think and develop reflective teaching skills like communication, lesson planning, critical thinking in a reflective manner and to use those skills during their teaching practice. And this research helps to improve teaching practice strategies of trainee physical education teachers enrolled in Bandarawela National College of Education.

One of the crucial processes in teacher education is reflective teaching practice. It encourages educators and students to improve a wide range of skills. Reflective teaching practice is treated as a lesson comes under the theoretical course in teacher education program. But, most probably they are not able to apply all the skills during their practicum. So there is essential need to study the effect of reflective teaching practices on the performance of trainee physical education teacher. On that account experimental research designed to investigate the effect of reflective teaching practices on the performance of trainee physical education teachers.

By identifying the need of reflective teaching practices in the Physical Education teacher training program of Bandarawela National College of Education, this research design to help trainee Physical Education teachers to think and develop reflective teaching skills.

2. Materials and Methods

This study was conducted as an experimental research design and designed to identify the effect of reflective Instructional technique on the performance of trainee Physical Education Teachers. The sample population was forty trainee physical education female teachers at Bandarawela National College of Education and distributed into two equal randomly selected groups as control group and experimental group. The purposive sampling method was used to select the sample. Each group consisted of 20 samples.

The experimental group was trained through a reflective teaching module and the control group is trained through the conversational (already ongoing) method. The module consisted with 30 lessons. Pre-test and post-test were used to collect all the data. This study took quantitative approach,

using statistical technique to assess the facts and data gathered. Before applying the teaching module for 20 trainee Physical Education teachers in the experimental group, got the pre-test by using the rubric level test and after following the teaching module within the particular time period, got the post-test and collected the pre-test and post-test data from the control group. Then all data gathered from the pre-test, and post-test were analyzed to interpret the proposed research work, and give a conclusion and suggestions regarding the research work.

The teacher observation sheet was used to take the pre-test that had four rubric levels with sixteen indicators. Then apply the treatment to the experimental group. Treatment was applying the teaching module that consists of thirty lessons and the duration of each lesson was forty minutes. Lesson plans were prepared according to the E5 model. An experimental research design was used to conduct this study. The intervention time period was one and a half months. After the intervention took the post-test as same as the pre-test. Then analyze the data using mixed ANOVA and compared the data of the control and experiment groups to make the results and discussion of the relevant study.

The data were collected through the Teacher Observation Sheet. Teacher Observation Sheet (TOS) was developed by the researcher to measure the reflective practices of trainee teachers during teaching practice. Literature related to effective teaching was reviewed for the construction of TOS. TOS was developed on the four-point rating scale.

1= Poor Performance

2= Unsatisfactory performance

3= Minimum performance

4= Good performance

Teacher Observation Sheet (TOS) consists of the following 16 types of reflective skills related to teaching.

- Teacher Appearance
- Lesson Planning.
- Brain Storming
- Learning Activities
- Extended work
- Concept Understanding
- Critical & Creative Learning
- Affective classroom climate
- Presentation
- Use of Instructional Time
- Classroom Management
- Feedback
- Communication Skills
- Assessment and Evaluation
- Professional development
- Self-Reflection.

2.1 Hypothesis

Ho 1= The performance of the experimental group that taught through reflective instructional technique and control groups that taught through conversational method for trainee Physical Education teachers are significantly different.

Ho 2= the performance of the experimental and control groups of trainee Physical Education teachers teaching practice is not significantly different.

3. Results and Discussion

3.1 Results

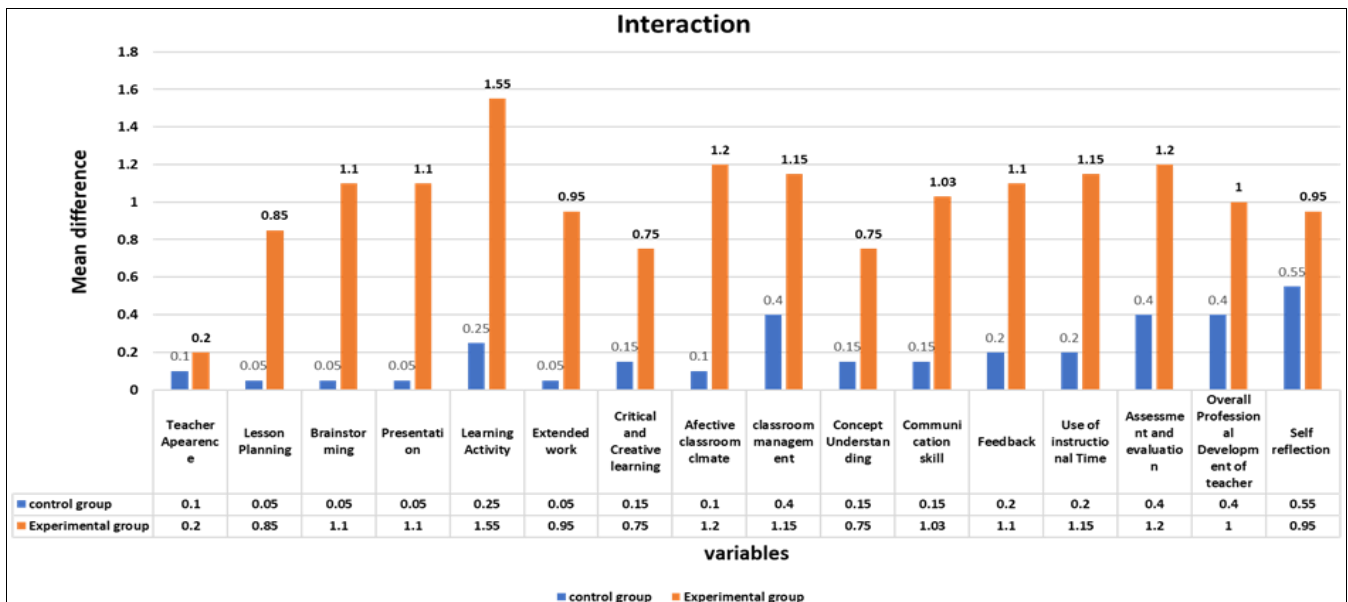


Fig 1: The mean differences between the pre-test and post-test within the groups

Above mentioned Figure 1 shows the mean differences between the pre-test and post-test within the groups. According to the Figure 1 mean differences of each indicator in the experimental group was higher than control group. The participants of experimental group scored higher with (mean difference = 0.2) as compared to students of control group (mean difference = 0.1) in teacher appearance indicator. Likewise, they scored higher in lesson planning indicator with 0.85 mean difference as compared to control group with mean difference 0.05. The experimental group performed better with mean difference 1.1 and 1.1 in brainstorming and presentation respectively. The experimental group obtained 1.55 mean difference as compared to the control group in the learning activity indicator. Moreover, the experimental

participants scored higher on extended work with 0.95 mean difference as compared to trainee teachers who were in control group. With 0.05 mean difference. The participants of experimental group showed higher mean difference (m= 0.75) as compared to the control group (m=0.15) in critical and creative learning indicator. Mean difference of experimental group in affective classroom climate indicator was (m = 1.2) and it was higher than mean difference in control group (m = 0.1). Mean difference of concept understanding, communication skill, feedback use of instructional time in experimental group was 0.75, 1.03, 1.1 and 1.15 respectively. Assessment and evaluation, overall professional development of teacher and self-reflection were showed higher mean differences as compared to the control group.

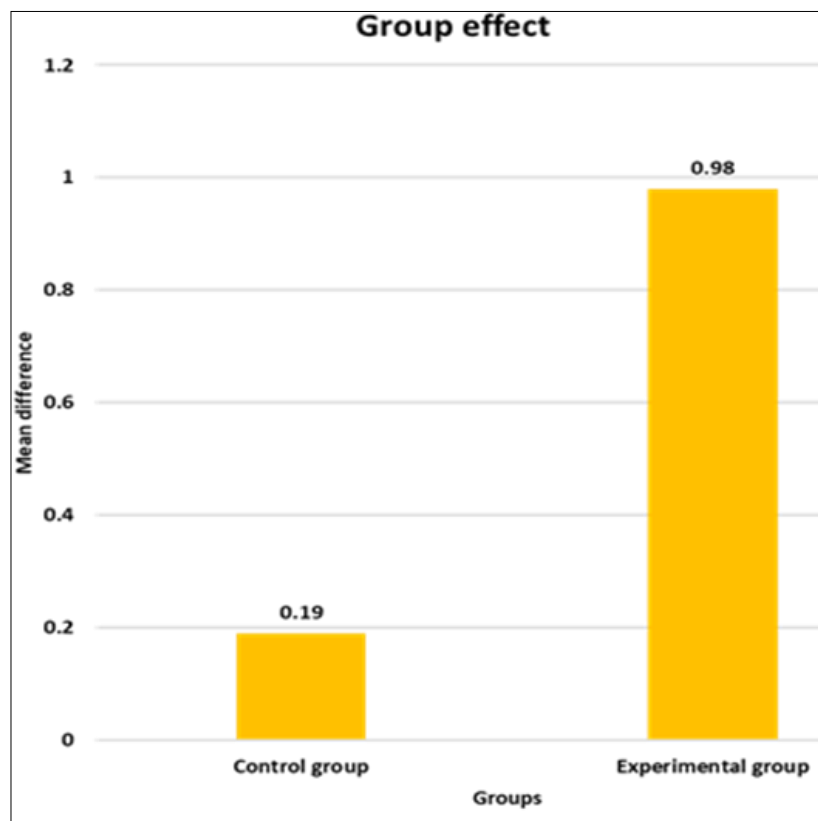


Fig 2: The mean difference between each group in pretest and posttest

Above mentioned Figure 2 shows the mean difference between each group in pretest and posttest. According to the figure control group shows the 0.19 mean difference and experimental group shows 0.98 mean difference. In case experimental group shows the higher mean value than control group.

In this study, all criterion variables were significantly different in time effect, group effect, time*group effect. 0.05 level of confidence was fixed to test the significance. The significant difference of each indicator was $p < 0.05$. It was concluded that reflective instructional

Technique has a positive effect on enhancing the performance of trainee physical education teachers

Similar kind of findings were observed by Ferdowsi & Afghari, 2015^[6] study entitled The Effects of Reflective Teaching on Teachers' Performance. The data obtained show that the majority of the participants emphasized the effect of reflective instructional technique on their communication patterns in the classroom, the affective climate of the class, classroom management, error correction, teachers' techniques and strategies, and professional development.

This study also investigated to identify the consequences of reflective instructional technique on the performance of trainee Physical Education Teachers. Results revealed that reflective instructional technique has positive effect toward the trainee physical education teacher performance.

3.2 Discussion

Bridge the gap between theory and practice in reflective instructional technique is a worldwide challenge. Teacher education around the world struggles with starting theory and practice and, in the traditional approaches to teacher educators' preparation, the notion of integration is largely ignored and that directly affect for the teacher education program's effectiveness.

The reflective instructional technique is an essential construct because of it can seriously impact the manifestation of knowledge and skills appropriate to the teaching profession. The reflective instructional method stated that lacking a positive attitude towards the teaching profession negatively affect the performance of the teachers. If Trainee teachers have positive attitudes towards the teaching profession, and they may easily develop their future student's motivation towards learning and also will be able to establish more efficient communication with them and be involved in diversification and personalize the situation of learning.

The main objective of the study was to identify the effect of reflective instructional technique on the performance of trainee Physical Education teachers. To administer the trainee physical education teachers before and after the treatment teacher observation sheet were used. Mixed ANOVA test was used to analyze the data of the experimental and control groups. That stated the difference between groups, while there was no significant difference found between the groups before applying the treatment.

At the beginning of the experiment, there was a slight difference in overall teaching performance in the control and experimental group. At the end of the experiment, there was sizable difference in overall teaching performance between the control group and the experimental group.

Trainee physical education teachers in the experimental group was positively inclined toward teaching than teachers in the control group. This is more positive inclination towards the trainee physical education teachers in the experimental group may be due to their training on reflective instructional

technique to all other extraneous factors are assumed to be the same during the training period.

Gheith & Aljaberi, 2018^[9] conducted a study that highlights the reflective instructional technique in teacher and their attitudes towards professional development. The results of that article justified that teachers' level of reflective practices from their personal point of view was at a higher level on all the dimensions, excluding the criticism, that explained that teachers in schools are more inclined towards using learner-centered learning strategies, striving to create a reflective teaching environment and also the self-evaluation, that takes appropriate decisions when solving problems that classroom-related and are persistent in the self-development. Teachers do not easily accept criticism from students and also their peers.

Mathew *et al.*, 2017^[19] investigated a study to examine how the teacher educator created opportunities for trainee teachers to develop their own reflective practices during their own teaching practice and this study revealed that to establish reflective practice as a tool for trainee teachers to explore themselves and thereby leading to their professional development.

Slade *et al.*, 2019^[20] conducted a study to determine the impact of reflective instructional method on the teacher candidates enrolled in a course focused on developmental sciences in a context of the poverty. The results of this study demonstrated that the level of reflection is required to prepare teacher candidate to make instructional decisions as well as become self-aware of their perspectives and attitudes in the teaching.

Barton & Ryan, 2014^[2] mentioned that teacher education and training programs should be budgeted to offer training for teacher educators in teacher training colleges. This study suggested that the teacher must give more attention to practical, continued, and also open-ended learning engagements that will facilitate reflective instructional techniques that are very useful for the coping with the dynamic and

The above discussion proved that different aspects of teacher education programs are significantly related to reflective instructional technique and several studies pointed out the pivotal role of reflective practices.

4 Conclusion

After one and half months of training, the rubric-level test was administered to trainee physical education teachers to identify the effect of reflective instructional technique on teaching. The mean value of each indicator of control and experimental groups was different after the treatment. Analysis of Mixed ANOVA revealed that there was a significant difference between the two groups after the treatment.

The Ho 2 stating no significant difference is rejected. It can be concluded that training in reflective instructional technique enhanced the performance of trainee physical education teachers of the experimental group.

According to the results, each indicator showed a higher mean value in the experimental group than control group and each indicator was significantly different. That revealed reflective instructional technique positively affect the trainee physical education teacher performance.

Reflective instructional technique have a positive and significant effect on various aspects of trainee teachers' teaching attitudes. The learning of students is positively and significantly impacted by reflective instructional technique.

This study concluded that reflective instructional technique improve teaching and learning skills and fosters a good attitude among instructors toward their work.

The first indicator was teacher appearance. This can be concluded from the findings that majority of trainee physical education teachers in experimental groups performed well regarding this indicator. None of the participants of the experimental showed poor performance. The majority of trainee physical education teachers in control groups showed low-level performance.

Next aspect is lesson planning. It was observed that majority of trainee physical education teachers in experimental groups planned their lesson better as compare to control groups. So, it can be concluded that the training has enhanced lesson planning skills of experimental groups.

Majority of trainee physical education teachers in experimental groups performed well, while control group performed lower regarding brainstorming. Participants of experimental groups used brainstorming sessions in their classes more effectively as compared to the control groups. It can be concluded that training played important role in enhancing this skill.

The majority of participants in experimental groups performed good regarding presentation skills. Trainee physical education teachers of the experimental group showed good presentation skill as compared to the control groups. It can be concluded that training improved the performance of trainee physical education teachers in above mentioned skill.

The majority participants in experimental group performed well regarding learning activity indicator. The trainee physical education teachers in experimental group showed good learning activity skills by comparing to the control group. According to that training programme developed the performance of trainee physical education teacher's learning activity skill.

The majority of participants in experimental group well performed in extended work indicator. Trainee physical education teachers of experimental showed better performance in extended work indicator with compared to the control group. When concluding the results training programme enhanced the performance of trainee physical education teachers' learning activity skill.

The experimental group well performed in critical and creative learning. Through that can be identified that training programme helps to develop critical and creative learning skill.

Most participants in experimental group performed well in affective classroom climate skill in experimental group than control group. Through the results could be identify that training programme helped to enhance the mentioned skill.

The most participants performed well, while control group performed poorly than the experimental group regarding classroom management skill. It can be observed that the participants in the experimental group managed their class in a proper way as compared with the control group. Through that can be justify that training programme played vital role in this skill.

The majority of the participants in the experimental group performed better, while the control group performed poorly concept understanding skill. Through that could be identified that participants in experimental group focused on the concept clarity in a better way with comparing the control group. It can be justify that training programme played important role in enhancing the concept understanding skill.

The majority of participants well performed in feedback skill

than the control group and could be justify that due to the training programme could be enhanced the feedback skill in the participants of experimental group.

The most of participants in the experimental group showed higher performance in the use of instructional time skill than the control group. Through that could be justified that training programme had positive effect towards the use of instructional time skill.

The participants in the experimental group performed well in assessment and evaluation skill than the control group. That means the training programme had positive effect towards the assessment and evaluation skill.

When the experimental group compared with the control group could be observed that trainee physical education teachers in the experimental group well performed in self-reflection skills. It was found that the trainee teachers in the experimental group was better at identifying about their own mistakes and suggesting remedies through the self-reflection skill.

By considering above mentioned all factors, can be justified that the trainee teachers can enhance their understanding of their teaching by consciously and systematically reflecting on their teaching performance.

This study is significant to trainee physical education teachers to explore ways to listen and assimilate their passion and judgment about their methodology. Through being able to accommodate diverse learning styles of students and contribute to the quality teaching-learning process of study. Reflective teacher training program is needed to sensitize trainee teachers about the latest standards of teaching and assessing their own performance. This study helps trainee teachers to sort out the gaps in achieving the objectives and identify whether they have achieved the goals of equality and equity in classroom practices.

According to the results, this study recommends,

1. To generalize the benefits of reflective practices, this study suggests longer training sessions with various groups of experienced teachers.
2. Teachers all throughout the world are using reflective instructional technique more frequently. Therefore, it is essential to conduct educational programs to raise awareness of the importance of reflective instructional technique among the teaching community.
3. Conducting additional research could emphasize the value of reflective instructional technique to a more comprehensive and diverse sample of trainee teachers and in-service teachers.
4. Include the Reflective instructional technique as a credit subject to the teacher training curriculum.

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