

AN ANALYTICAL STUDY OF PRE-SERVICE TEACHERS' PEDAGOGIC SKILLS IN CLASSROOM TEACHING*

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Abstract

The main purpose of this study is to investigate pre-service teachers' pedagogic skills in classroom teaching. Pedagogic skills are teaching skills or activities carried out by the teachers to foster meaningful learning for the learners. This study was conducted with convergent parallel design (QUAN+QUAL), which is one of the basic mixed methods designs. The one-group pretest-posttest design was used in the quantitative study whereas case study research design was used in the qualitative study. The participants were Second Year pre-service teachers at Sagaing University of Education in 2019-2020 Academic Year. The research instruments are pretest, posttest, a set of questionnaire, analytic rubrics for observation, and interview questions. In this study, the quantitative and qualitative data were simultaneously collected, merged them, and used the results to understand the research questions. For the quantitative data analysis, descriptive statistics and inferential statistics were used. In order to determine the progress of the participants in each of their pedagogic skills, pretest and posttest scores obtained from the quantitative study were compared with paired samples *t* test. The pre-service teachers' attitudes towards pedagogic skills were analyzed using descriptive statistics (mean and percentage). For the qualitative study, the observation data were converted into numbers and analyzed quantitatively. In addition, thematic analysis was used for reporting themes within the interview data. Quantitative and qualitative data were merged through methodological and data triangulation. According to the research findings, the instructional behaviour of pre-service teachers in their pedagogic skills has been improved after using the pedagogic skills model.

Key words: pedagogy, skills, pedagogic skills, signature pedagogy, pre-service teachers

Introduction

Pre-service teachers who choose the teaching profession need to have the professional traits. Since the improvement of basic education in the future depends on the quality of pre-service teachers, they should be trained to access the necessary skills in their teaching. The pedagogic skills required for the pre-service teachers can be provided according to signature pedagogies of Shulman (2005). Signature pedagogies are the types of teaching that organize the fundamental ways in which future practitioners are educated for their professions. A signature pedagogy has three dimensions: surface structure, deep structure and implicit structure. If pre-service teachers are trained to have pedagogic skills using signature pedagogies, it will improve the pedagogic skills of pre-service teachers and lead to the improvement of student learning in their classroom.

In Myanmar, there is a challenge to produce qualified teachers in pre-service teacher education. Major changes are needed to improve the quality of teaching and learning in teacher education institutions. Pre-service teacher education suffers from an overloaded and outdated curriculum and there are limited opportunities for trainees to apply their learning through practicum. Improving the quality of classroom teaching is essential to improve student learning achievement in schools (Ministry of Education [MOE], 2016). There is a need to improve the pedagogic skills of pre-service teachers during their classroom teaching. Therefore, this study will contribute the improvement of pre-service teachers' classroom teaching through the pedagogic skills model.

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Purpose of the Study

The main purpose of this study is to investigate pre-service teachers' pedagogic skills in classroom teaching. The specific objectives of the study are as follows.

1. To investigate the effectiveness of the pedagogic skills model for pre-service teachers.
2. To explore the attitudes of pre-service teachers towards pedagogic skills.
3. To examine the knowledge and skills of pre-service teachers who have learned about pedagogic skills by using the pedagogic skills model.
4. To make suggestions and recommendations for improving pre-service teachers' pedagogic skills in teacher education.

Research Questions

1. Is there any difference in pre-service teachers' pedagogic skills between the pretest and posttest using the pedagogic skills model?
2. What are the differences between the performance of pre-service teachers in their pedagogic skills before and after using the pedagogic skills model?
3. What are the attitudes of pre-service teachers towards pedagogic skills?
4. What are the knowledge and skills of pre-service teachers who have learned about pedagogic skills by using the pedagogic skills model?
5. To what extent does the pedagogic skills model impact on instructional behaviour of pre-service teachers regarding their pedagogic skills?

Scope of the Study

This study was conducted to improve the pedagogic skills of pre-service teachers in planning and preparation, lesson presentation, and assessing students' progress. The participants are Second Year pre-service teachers in the 2019-2020 Academic Year at Sagaing University of Education. This study was conducted in May 2022 due to the Covid-19 pandemic.

Definition of Key Terms

Pedagogy

Pedagogy is the act of teaching together with its attendant discourse. It is what one needs to know, and the skills one needs to command in order to make and justify the many different kinds of decisions by which teaching is constituted (Alexander, 2003, as cited in Cogill, 2008).

Skills

In the educational context, skills are referred to as achievements and/or behaviours to be acquired through practice or training to facilitate the student learning and classroom management (Irvine, 1997, as cited in Chong & Cheah, 2009).

Pedagogic Skills

Teachers' knowledge about classrooms, personal knowledge about specific students and their families, assessments, students' motivation, and social interaction skills are considered as pedagogic skills (Clark & Walsh, 2002, as cited in Rafique & Aziz, 2019).

Signature Pedagogies

Signature pedagogies are defined as the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions. It has three dimensions: surface structure, deep structure, and implicit structure (Shulman, 2005).

Pre-service Teachers

Pre-service teachers are those who are getting training to become teachers and they are known by different names like would-be teachers, pupil-teachers, student-teachers and future-teachers (Parvez & Shakir, 2013).

Review of Related Literature

Educational philosophy is actually the resultant merger of the study of philosophy with the knowledge of children and learning psychology. Without a sound educational philosophy, there can hardly be sound policy and sound pedagogic practice. Expert pedagogues and learned educators contend such practice will lower both the quality and prestige of teacher education (Khin Zaw, 2013).

Research into teacher education development indicates that improvement in pedagogical practices requires professional development program that develops and upgrades pedagogic knowledge and skills over a sustained period of time, starting with the provision of higher education of pre-service teacher education and training and continuing throughout a teacher career through the provision of in-service education and training (Khin Zaw, 2013). Therefore, this study was conducted to develop a pedagogic skills model for the improvement of pre-service teachers' pedagogic skills. The pedagogic skills model was designed on the basis of philosophical foundations concerning pragmatism, progressivism, reconstructionism, constructivism, and behaviourism to bridge the gap between theory and practice, and to cultivate well-qualified teachers in pre-service teacher preparation programs.

The pedagogic skills model is based on pedagogy in relation to learning theories in the field of education such as behaviourist pedagogy, progressivist/constructivist pedagogy, social psychological pedagogy, and critical pedagogy. Then, the pedagogic skills model is constructed on the basis of reflective decision making model, pedagogical competence model, Flanders' interaction analysis model, Gilbert's praxeonomic training model, and Kirkpatrick's model for evaluation of a training program.

The training for pre-service teachers' pedagogic skills typically focuses on providing specific skills for their teaching profession. The pedagogic skills model for pre-service teachers is designed with three phases. The first phase is identified as an initial assessment. In this phase, a pretest about the pedagogic skills and an observation form to observe the pedagogic skills of pre-service teachers are used. The second phase refers to training pedagogic skills through signature pedagogy. The third phase of the model is outcomes analysis.

Method

Research Design

In this study, one of the basic mixed methods designs, the convergent parallel design (QUAN+QUAL) was used. According to Mills and Gay (2016), quantitative and qualitative data are given equal attention and emphasis, and are collected concurrently throughout the same study in this design.

Population and Sample Size

The participants were Second Year pre-service teachers at Sagaing University of Education. The population was 94 Second Year pre-service teachers. Among them, the sample size was assigned to 30 participants of the population. The participants were selected with stratified random sampling method for the involvement of the study.

Instruments

In this study, pretest, posttest and a set of questionnaire based on the pedagogic skills were used for the quantitative study. For the qualitative study, the analytic rubrics for observation, and interview questions were used to investigate the pedagogic skills of pre-service teachers.

Procedure

The pedagogic skills model for pre-service teachers was designed based on the literature review. The instruments required for the study were constructed. After that, the validation for the instruments was taken from the expert educators. Next, a pilot study was conducted at the University for the Development of the National Races of the Union. Then, the main study was conducted at Sagaing University of Education.

Data Analysis

For the quantitative study, pretest and posttest scores from the quantitative study were compared with paired samples *t* test. The attitudes of pre-service teachers towards pedagogic skills were analyzed using descriptive statistics (mean and percentage). For the qualitative study, the observation data were converted into numbers and analyzed quantitatively. In addition, thematic analysis was used for identifying, analyzing and reporting themes within the interview data to organize and describe them in detail. Quantitative and qualitative data were merged through triangulation.

Findings

Quantitative Research Findings

In the quantitative research findings, the levels of outcomes analysis: results and reaction of pre-service teachers on their pedagogic skills are described. At the results level, pre-service teachers' pedagogic skills are explained with the posttest whether they have progress in comparison with the pretest according to test scores of each pedagogic skill. At the reaction level, the pre-service teachers' attitudes towards the pedagogic skills are described.

Research Findings of Pretest and Posttest on Pedagogic Skills

In order to compare a single group's performance at two different times, they were analyzed by using nonindependent samples *t* test. The results of pre-service teachers' pedagogic skills on pretest and posttest are described in Table 1.

Table 1. *t* Values for Test Scores of Pre-service Teachers' Pedagogic Skills

No.	Paired Samples		<i>n</i>	<i>M</i>	<i>MD</i>	<i>t</i>	<i>df</i>	<i>p</i>	Eta squared
1.	Planning and Preparation	Before	30	8.83	-0.67	-3.16	29	.004**	.26
		After	30	9.50					
2.	Lesson Presentation	Before	30	8.57	-0.46	-2.38	29	.024*	.16
		After	30	9.03					
3.	Assessing Students' Progress	Before	30	6.33	-1.87	-6.26	29	.000***	.58
		After	30	8.20					

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

According to Table 1, the posttest scores were higher than the pretest scores on planning and preparation, lesson presentation and assessing students' progress because the mean

difference was 0.67, 0.46, and 1.87. Therefore, there was a significant difference between the scores on each pedagogic skill before and after using the pedagogic skills model. According to Cohen (1988, as cited in Pallant, 2013), the guidelines for interpreting eta squared value are .01 = small effect, .06 = moderate effect, and .14 = large effect. In this study, the eta squared value of .26, .16, and .58 showed that there has a large effect of the pedagogic skills model on planning and preparation, lesson presentation and assessing students' progress of pre-service teachers. It can be interpreted that the use of the pedagogic skills model has a significant effect on each pedagogic skill of pre-service teachers.

Findings of Pre-service Teachers' Attitudes towards Planning and Preparation

The pre-service teachers' attitudes towards planning and preparation were analyzed by using descriptive statistics. The responses of pre-service teachers are described in Table 2.

Table 2. Pre-service Teachers' Attitudes towards Planning and Preparation

Item	Statement	n	M	Percentage (%)			
				SD	D	A	SA
1	Making teaching smooth and effective in the classroom	30	3.93	-	-	6.7	93.3
2	Planning a detailed lesson plan for effective teaching	30	3.70	-	-	30.0	70.0
3	Identifying the instructional objectives for the lesson	30	3.73	-	-	26.7	73.3
4	Facilitating the teaching and learning process by planning and preparation	30	3.67	-	-	33.3	66.7
5	Evaluating students' learning prior to teaching and learning process	30	3.27	3.3	3.3	56.7	36.7

Note. SD = Strongly Disagree; D = Disagree; A = Agree; SA = Strongly Agree.

According to Table 2, most of the pre-service teachers accepted that lesson preparation with a detailed plan makes their teaching smooth and effective in the classroom. Therefore, it can be interpreted that identifying clear objectives, and preparing a detailed instructional procedure and assessment facilitate the teaching learning process.

Findings of Pre-service Teachers' Attitudes towards Lesson Presentation

The pre-service teachers' attitudes towards lesson presentation were analyzed by using descriptive statistics. The responses of pre-service teachers for each item of lesson presentation are described in Table 3.

Table 3. Pre-service Teachers' Attitudes towards Lesson Presentation

Item	Statement	n	M	Percentage (%)			
				SD	D	A	SA
1	Making the lesson content clear and appropriate to the learning outcomes	30	3.47	-	3.3	46.7	50.0
2	Using a variety of question types during the lesson to get students' attention	30	3.13	-	6.7	73.3	20.0
3	Making students noticeable importance of the lesson by providing clear instruction	30	3.63	-	-	36.7	63.3
4	Manifesting important ideas and concepts of the lesson by using appropriate instructional materials	30	3.70	-	-	30.0	70.0
5	Asking questions to make verbal interaction in the classroom	30	3.27	-	-	73.3	26.7

Note. SD = Strongly Disagree; D = Disagree; A = Agree; SA = Strongly Agree.

According to Table 3, most of the pre-service teachers accepted that providing clear instruction with the established objectives and with the related examples makes the lesson content clear for the students and facilitate their learning. They also accepted that asking different types of questions maintains their students' attention and affects the interactions between the teacher and the students. Therefore, it is sure that the learning experiences the teacher set up help students achieve the intended learning outcomes by themselves.

Findings of Pre-service Teachers' Attitudes towards Assessing Students' Progress

The pre-service teachers' attitudes towards assessing students' progress were analyzed by using descriptive statistics. The responses of pre-service teachers for each item of assessing students' progress are described in Table 4.

Table 4. Pre-service Teachers' Attitudes towards Assessing Students' Progress

Item	Statement	n	M	Percentage (%)			
				SD	D	A	SA
1	Using appropriate assessment activities to determine knowledge and understanding of students	30	3.40	-	3.3	53.4	43.3
2	Using assessment techniques that are tailored to the purpose for which it is intended	30	3.63	-	-	36.7	63.3
3	Identifying students' readiness for future learning by assessing their progress	30	3.40	-	3.3	53.4	43.3
4	Providing educative feedback about students' progress	30	3.30	3.3	-	60.0	36.7
5	Determining how well the content is being learned through classroom assessment	30	3.57	-	-	43.3	56.7

Note. SD = Strongly Disagree; D = Disagree; A = Agree; SA = Strongly Agree.

According to Table 4, most of the pre-service teachers accepted that students can be provided with educative feedback for future learning through the assessment of their progress. Therefore, it can be interpreted that the regular assessment of students' progress makes the teaching-learning process effective in the classroom.

Qualitative Research Findings

For the purpose of exploring pre-service teachers' performance in classroom teaching as well as their knowledge and skills, the behaviour and learning of pre-service teachers on their pedagogic skills were examined in the qualitative study. At the behaviour level, the performance of pre-service teachers on their pedagogic skills is explained in terms of the observation data during their classroom teaching. At the learning level, the knowledge and skills of pre-service teachers who have learned about pedagogic skills are described based on the responses of participants to interview questions.

Research Findings of Pre-service Teachers' Performance from Observation

The pre-service teachers' pedagogic skills were observed with analytic rubrics before and after using the pedagogic skills model. The pre-service teachers' performance levels on pedagogic skills were assigned as advanced, proficient, basic and unsatisfactory respectively. The observation data were converted into numbers as 1 = unsatisfactory, 2 = basic, 3 = proficient, and 4 = advanced. They were analyzed quantitatively by using descriptive statistics (mean). Then, the results were turned into narrative accounts and descriptions based on the criteria which are described in the analytic rubrics.

Findings of Pre-service Teachers' Performance on Planning and Preparation

The performance levels of pre-service teachers before and after using the pedagogic skills model are described in Table 5.

Table 5. Pre-service Teachers' Performance Levels on Planning and Preparation

No.	Performance on Planning and Preparation	Level	
		Before	After
1.	Identifying instructional objectives	2	3
2.	Describing the rationale	1	3
3.	Including instructional materials	2	3
4.	Preparing instructional procedure	2	4
5.	Evaluating student learning	2	3
	Overall	2	3

Note. 1 = Unsatisfactory; 2 = Basic; 3 = Proficient; 4 = Advanced.

According to Table 5, after using the pedagogic skills model, the pre-service teachers were able to identify most of the instructional objectives correctly. They explained the reason for teaching the lesson. They prepared the materials related to the lesson. They provided instructional procedure in detail. They prepared evaluation component to be consistent with most of the predetermined objectives in the lesson plan.

Therefore, it was observed that the performance of pre-service teachers increased from basic level to proficient level on planning and preparation after using the pedagogic skills model.

Findings of Pre-service Teachers' Performance on Lesson Presentation

The performance levels of pre-service teachers before and after using the pedagogic skills model are described in Table 6.

Table 6. Pre-service Teachers' Performance Levels on Lesson Presentation

No.	Performance on Lesson Presentation	Level	
		Before	After
1.	Presenting instructional clarity	3	3
2.	Providing examples	2	3
3.	Changing instructional alternatives	2	2
4.	Applying questioning strategies	1	2
5.	Using sequence of questioning	2	3
	Overall	2	3

Note. 1 = Unsatisfactory; 2 = Basic; 3 = Proficient; 4 = Advanced.

According to Table 6, after using the pedagogic skills model, the pre-service teachers provided instruction that helps students come to a clear and accurate understanding of important concepts of the lesson. They provided examples related to the lesson. They varied the instructional alternatives which are suitable to the students for their engagement in the lesson. They used the divergent questioning strategy to evoke a wide range of student responses in accordance with the sequences of questioning.

Therefore, it was observed that the performance of pre-service teachers increased from the basic level to the proficient level in providing examples related to the lesson as well as in asking questions according to the sequence of questioning. Moreover, their pedagogic skills increased from unsatisfactory level to basic level in using questioning strategies.

Findings of Pre-service Teachers' Performance on Assessing Students' Progress

The performance levels of pre-service teachers before and after using the pedagogic skills model are described in Table 7.

Table 7. Pre-service Teachers' Performance Levels on Assessing Students' Progress

No.	Performance on Assessing Students' Progress	Level	
		Before	After
1.	Assessing the prior knowledge and understanding	2	3
2.	Assessing the recall of new information	3	3
3.	Assessing the organization of the new content	2	3
4.	Assessing the deeper level of learning	1	2
5.	Using assessment techniques	1	2
	Overall	2	3

Note. 1 = Unsatisfactory; 2 = Basic; 3 = Proficient; 4 = Advanced.

According to Table 7, after using the pedagogic skills model, the pre-service teachers assessed the prior knowledge and understanding of some students. They assessed the recall of new information of some students. They assessed the organization of new content by some students. They assessed the deeper level of one student. They sometimes used the classroom assessment techniques to tailor the intended purpose of the assessment.

Therefore, it was observed that the performance of pre-service teachers increased from the basic level to the proficient level in assessing the prior knowledge and the organization of new content. In the same way, their pedagogic skills increased from the unsatisfactory level to the basic level in assessing the deeper level of learning and using assessment techniques after using the pedagogic skills model.

Research Findings from Interview Questions

The interview questions were analyzed with thematic analysis. The results are described based on planning and preparation, lesson presentation, and assessing students' progress.

Findings of Interview Questions on Planning and Preparation

The results of interview questions on planning and preparation are described in Table 8 based on the responses of the pre-service teachers.

Table 8. Results of Interview Questions on Planning and Preparation

Main Theme	Sub Theme
Factors on planning and preparation	<ul style="list-style-type: none"> ▪ lesson content, objectives ▪ instructional materials, alternatives, procedure ▪ assessment
Implementation of planning and preparation	<ul style="list-style-type: none"> ▪ preparation of instructional procedure ▪ including instructional materials ▪ listing what the teacher intends to teach
Challenges faced in planning and preparation	<ul style="list-style-type: none"> ▪ using instructional materials ▪ varying instructional alternatives ▪ responding to students' questions
Contributions to future practices	<ul style="list-style-type: none"> ▪ reducing how much thinking they will have to do during the lesson ▪ making teaching-learning process sequential and effective

Main Theme	Sub Theme
	<ul style="list-style-type: none"> ▪ being aware of the facts that need preparing for teaching ▪ be able to construct a lesson plan systematically

Findings of Interview Questions on Lesson Presentation

The results of interview questions on lesson presentation are described in Table 9 based on the responses of the pre-service teachers.

Table 9. Results of Interview Questions on Lesson Presentation

Main Theme	Sub Theme
Factors on lesson presentation	<ul style="list-style-type: none"> ▪ using instructional materials ▪ using questioning strategies ▪ varying instructional alternatives
Implementation of lesson presentation	<ul style="list-style-type: none"> ▪ using instructional materials including blackboard ▪ using examples ▪ using different types of questions ▪ varying instructional alternatives
Challenges faced in lesson presentation	<ul style="list-style-type: none"> ▪ exciting in teaching because of peers ▪ having anxiety while peer teaching at the beginning
Contributions to future practices	<ul style="list-style-type: none"> ▪ becoming aware of the challenges faced in teaching ▪ getting experiences in peer teaching ▪ having self-confidence in teaching

Findings of Interview Questions on Assessing Students' Progress

The results of interview questions on assessing students' progress are described in Table 10 based on the responses of the pre-service teachers.

Table 10. Results of Interview Questions on Assessing Students' Progress

Main Theme	Sub Theme
Factors on assessing students' progress	<ul style="list-style-type: none"> ▪ recalling new information ▪ organization of new content ▪ deeper level of learning
Implementation of assessing students' progress	<ul style="list-style-type: none"> ▪ recalling new information ▪ organization of new content
Challenges faced in assessing students' progress	<ul style="list-style-type: none"> ▪ asking questions to catch the important points of the lesson
Contributions to future practices	<ul style="list-style-type: none"> ▪ attainment of the objectives of the lesson through assessing students' progress ▪ identifying the progress of the students ▪ determining the students' understanding through assessment ▪ examining the needs and student learning through assessment

Integration of Research Findings on Pedagogic Skills (QUAN+QUAL)

This study was conducted by utilizing a convergent parallel design which is one of the basic mixed methods designs. According to Creswell and Clark (2018), the qualitative and quantitative data were collected simultaneously instead of one after another in this design. Quantitative and qualitative data were merged through methodological and data triangulation. Methodological triangulation involved the use of both quantitative and qualitative research methods. Data triangulation involved the utilization of both quantitative and qualitative data collection methods (Denzin, 2012). The integration of quantitative and qualitative research findings is described in Table 11.

Table 11 Integration of Research Findings on Pedagogic Skills

Pedagogic Skill	Quantitative		Qualitative		Interpretation
	Results (eta squared)	Reaction	Behaviour	Learning	
PP	.26	Be effective teaching in the classroom	Proficient level	Reduce how much thinking they will have to do during the lesson	Pre-service teachers' pedagogic skills have been improved after using the pedagogic skills model.
LP	.16	Achieve intended learning outcomes	Proficient level	Have experiences in peer teaching	
ASP	.58	Facilitate the students' progress in teaching-learning process	Proficient level	Attainment of the objectives of the lesson	

Note. PP = Planning and Preparation; LP = Lesson Presentation; ASP = Assessing Students' Progress.

According to Table 11, it can be interpreted that the pedagogic skills model has a strong effect on instructional behaviour of pre-service teachers regarding their pedagogic skills.

Discussion

The purpose of this study was to investigate the pre-service teachers' pedagogic skills in classroom teaching. The first research question is about whether there are differences in pre-service teachers' pedagogic skills between the pretest and posttest after using the pedagogic skills model. According to the results, the use of the pedagogic skills model has a significant effect on the pedagogic skills of pre-service teachers. The results were in line with the study of Choy, Wong, Chong, and Lim (2013) who investigated the beginning teachers' pedagogical knowledge and skills.

The second research question is about investigating the performance of pre-service teachers on their pedagogic skills after using the pedagogic skills model. According to the results, the performance of pre-service teachers on planning and preparation, lesson presentation, and assessing students' progress was higher than before the use of that model. The results of the study were consistent with the findings of Choy, Wong, Chong, and Lim (2014) who showed that beginning teachers' self-perceived pedagogical knowledge and skills significantly increased at the end of their courses.

The third research question is set up for exploring the pre-service teachers' attitudes towards pedagogic skills. According to the results, identifying clear objectives, and preparing a detailed instructional procedure and assessment facilitate the teaching-learning process. Then, the

learning experiences the teacher sets up help students achieve the intended learning outcomes by themselves. Moreover, the regular assessment of students' progress makes the teaching-learning process effective in the classroom. The results of the study were in line with the study of Gultom, Hutaaruk, and Ginting (2020) who investigated about teaching skills of teachers in increasing student learning interest.

The fourth research question is about examining the knowledge and skills of pre-service teachers who have learned by using the pedagogic skills model. According to the results of the pre-service teachers' interviews, they accepted that it is necessary to identify the instructional objectives related to learning activities, organize the instructional procedure, and assess their students' progress. They agreed that they arranged a set of instructions on how to present the lesson that they intends to teach, and organized their students' thoughts by using the basic questioning strategies.

They stated that they had difficulties in their teaching-learning process due to the weakness of lesson preparation, and lesson presentation to catch the concept of the lesson. Moreover, they claimed that they can make teaching-learning process sequential and effective with careful planning and reduce how much thinking they will have to do during the lesson. The results of the study were consistent with the research findings of Tok (2010) who studied the problems of teacher candidates about teaching skills during teaching practice.

The last research question is about the impact of pedagogic skills model on pre-service teachers' instructional behaviour regarding their pedagogic skills. According to the results, pre-service teachers' pedagogic skills have been improved after using the pedagogic skills model. The findings were in conformity with the findings of Negassa and Engdasew (2017) who indicated that pedagogical skills training had an effect on their teaching skills.

Suggestions

Teachers' performance to promote student learning inside the classroom can enhance quality teaching. It includes selecting appropriate instructional objectives and assessments, employing varied instructional alternatives, creating a positive learning environment, and evaluating the impact of teaching on student learning. Thus, pre-service teachers should be able to construct a lesson plan systematically and become aware of the importance of the assessment component in planning and preparation for classroom teaching. They should take into account that explanations need to be clear and matched to the needs of the students. In addition, they should take in establishing and maintaining a highly interactive classroom using different types of questions. They should engage in the use of the pedagogic skills model for the improvement of instructional behaviour that helps their students learn in classroom teaching.

As teacher educators, the pedagogic skills model should be used to acquire active participation of pre-service teachers in teacher preparation programs by applying the theories that they have studied. Although the contents involved in the pedagogic skills model overlap with the regular courses for the Second Year pre-service teachers, they are provided with the opportunities to practice their pedagogic skills based on the theory that has been studied. The results of the study indicated the large effect of the pedagogic skills model on pre-service teachers' pedagogic skills. Therefore, the administrators from teacher education programs should take into consideration designing pedagogic skills improvement activities in the Second Year BEd courses for the improvement of their pedagogic skills to prepare them for practice teaching.

Recommendations

Research plays a vital role in addressing educational issues and searching for potential solutions (Creswell, 2012). This study was conducted to investigate the pedagogic skills of Second Year pre-service teachers at Sagaing University of Education. Therefore, the further research studies should be made based on the current study.

1. Replication of this study should be conducted with pre-service teachers at the other Universities of Education and Education Degree Colleges.
2. Further studies should be conducted as qualitative studies for each pedagogic skill to cover the research process and to avoid the constraints of time.

Conclusion

In the teacher education sector, the result of pre-service teachers training program is fundamental in developing the quality of teaching. Since the pedagogic skills of teachers are powerful forces for them, the teacher education program is required to cultivate pre-service teachers with effective pedagogic skills for their teaching. This study aimed at investigating the pre-service teachers' pedagogic skills in classroom teaching.

The research design applied in this study was the convergent parallel design (QUAN+QUAL) which is one of the basic mixed methods designs. In this design, quantitative and qualitative data were collected concurrently throughout the study. According to the research findings, the pedagogic skills of pre-service teachers have been improved after the use of pedagogic skills model.

In conclusion, pedagogic skills are a key requirement for the pre-service teachers who come into the teaching profession. Pedagogic skills help them lay the foundation for meaningful classroom learning for their students and the interaction between the students and the teachers in order to improve the quality of teaching in the classroom. For the pre-service teacher education program, it should make sure that the pre-service teachers have the required pedagogic skills before they embark on their teaching journey.

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