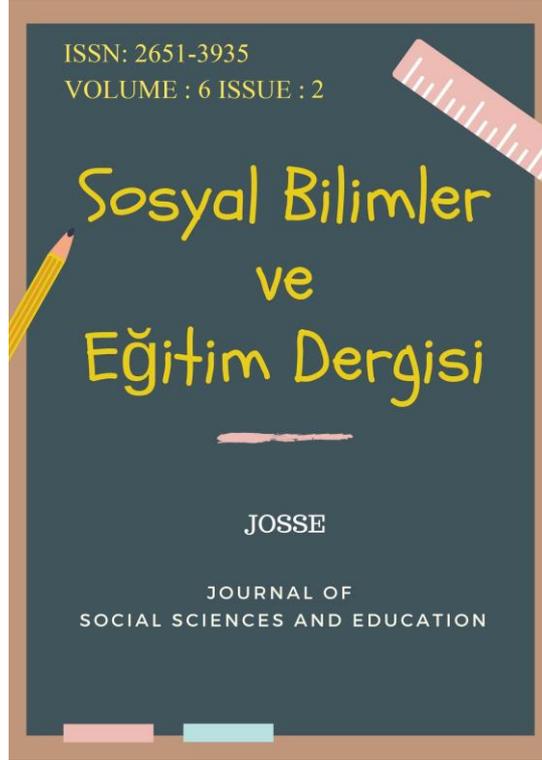


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Reflective Practices of Pre-Service Teachers: Self-reflections on Micro Teaching

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Abstract

This study aims to reveal pre-service teachers' (PSTs) self-reflections on micro-teaching practices. The study was conducted with a qualitative approach. The participants of the study consisted of 117 PSTs from 9 different branches who took the Micro-teaching (Elective) course at the faculty of education of a state university in Türkiye in the 2021-2022 academic year. According to the aim of the study, PSTs did micro-teaching practices. The micro-teaching practices were video-recorded and watched by the PST. The practice was evaluated by the PSTs peers and delivered to the PST in writing. The qualitative data of the study were obtained with the "Self-reflection Form" prepared by the researchers. This form consists of two open-ended questions about the strengths and weaknesses that pre-service teachers realized during the microteaching practice. The data were analyzed by content analysis method. It was found that PST described their strengths and weaknesses in planning, process, and assessment categories. PSTs emphasized their weaknesses more than their strengths for the planning category. In the category of planning, pre-service teachers stated that their strengths were that they were able to prepare lesson plans with well-rounded activities and integrity, and their weaknesses were that they could not manage their time properly and that they realized that the activities and examples were not suitable for the grade level. In the category of processing, they emphasized strengths more than weaknesses. The PSTs consider themselves strongest in lesson management and stated that they need to improve their diction, voice, and oratory skills. The assessment was the least opinioned category by the PSTs. For the assessment of the lesson, PSTs thought that they achieved the outcome by focusing on the teaching process, which was considered successful.

Keywords: Self-reflection, reflective practice, teacher education, pre-service teacher, micro-teaching

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Introduction

As interpreted by John Dewey, we do not learn from experience, we learn from reflecting on experience (Lagueux, 2014). A good teacher is the one who does self-reflection on his/her experiences. A self-reflective teacher constantly observes and criticizes himself/herself (Kundu & Bej, 2022). Considering that a teacher is a role model, evaluating classroom practices can be a powerful tool for the development of students. (Kim et al., 2019). It is essential for a teacher to acquire this behavior during the pre-service education process in order to be capable of self-reflection. Micro-teaching (MT) is one of the implementations that can enable pre-service teachers (PSTs) to engage in self-reflection in teacher training programs.

Micro-teaching methods provide an opportunity for pre-service teachers to demonstrate teaching practice. Considering that in-depth thinking can occur on the basis of practice (Crichton et al., 2021), this practice, which provides a theory-practice connection in teacher training programs, is important. International studies have concluded that micro-teaching is effective in teacher training (Crichton et al., 2021; Erdemir & Yeşilçınar, 2021; Karakaş & Yükselir, 2021; Maguire, 2022; Saban & Çoklar, 2013). However, it is thought that the importance given to micro-teaching has increased in Türkiye.

Teacher Training and Micro-Teaching in Türkiye

Micro-teaching practices, which were first introduced in the world in 1963 at Stanford University (Allen, 1967), started to be implemented in Türkiye in the 1980s and widespread in the 1990s (Yolcu & Turhan-Türkkan, 2021). "Micro-teaching", which was previously applied in various major areas of education courses, was added as a course to the teacher training undergraduate program, which was renewed by the Council of Higher Education (CoHE) to be implemented as of the 2018-2019 academic year. Besides, the statement of "making individual and group micro-teaching practices using special teaching methods and techniques specific to the field" in the content of Teaching Practice I and Teaching Practice II courses in undergraduate programs (CoHE, 2018) shows the importance given to micro-teaching practices in Türkiye.

Studies on micro-teaching in Türkiye (Erdamar & Bangir-Alpan, 2021) shows that interest in micro-teaching has increased in recent years. Although there are studies in the international literature in which pre-service teachers from different branches take part together

(Ledger & Fischetti, 2019; Maguire, 2022), it can be seen that in recent years in Türkiye, there have been many studies on micro-teaching conducted with pre-service teachers from various branches such as English (Erdemir & Yeşilçınar, 2021; Saraçoğlu et al., 2018), elementary mathematics (Yıldız, 2022), social studies (Tünkler, & Güven, 2018), and classroom teaching (Dağ & Temur, 2018). In this study, the self-reflections of pre-service teachers from different branches on the micro-teaching they realized in the "micro-teaching" course, which is a profession knowledge elective course, were revealed. Within this aim, pre-service teachers doing micro-teaching had the opportunity to receive feedback from pre-service teachers from different branches in addition to their own branch together with the instructor in charge of the course, and they created a self-reflection by taking these feedbacks into consideration. It is thought that the study would contribute to the literature due to this difference.

Theoretical Foundations and Literature Review

This section presents the theoretical framework on which the study is based. In this context, reflective practice, reflection, self-reflection and micro-teaching were briefly introduced.

Reflective Practice

Reflective practice is creating a habit or routine for examining experience (Amulya, 2004). When experience is connected with reflective practice, students' cognitive reasoning increases to higher levels than expected in traditional classroom pedagogy (Dellaportas et al., 2022). According to Finlay (2008), reflective practice, that is a part of the lifelong learning process, involves the individual practitioner having self-awareness and critically evaluating their own reactions to the practice process. Thus, the individual gains a new perspective and improves future practices (Finlay, 2008). This study was based on the conceptual framework of Schon' (1983) reflective practitioner model.

Schon (1983) has discussed reflective practice in two different ways: reflection-in-action and reflection-on-action. Accordingly, novices focus mechanically on the practice during practice because of their limited knowledge, while experienced professionals can simultaneously engage in an intuitive reflection as they master the practice. Moreover, all practitioners, professional or novice, are expected to think on/after the practice (Schon, 1983). In this study, pre-service teachers were asked to make self-reflection not during micro-

teaching but after. For this reason, the research was conducted within the framework of Schon's (1983) reflection-on-action theoretical model.

Reflection and Self-Reflection

Reflection is an active process in which an individual looks intently into their own experience in order to explore it in depth (Amulya, 2004). Based on scientific inquiry, reflection is a meaning-making process that moves the learner from an experience to another, ensures the continuity of learning and takes place through interaction within a community (Rodgers, 2002). The three main stages of reflection are (1) returning to the experience, (2) remembering emotions and (3) reappraising the experience (Boud et al., 1985). Another concept related to reflection is self-reflection.

Reflection and self-reflection are related but different concepts (Brownhill, 2023). Self-reflection generally describes the process of looking back at an individual's past learning experiences and what they have done to enable learning to take place, and discovering the connections between their knowledge and their own ideas (Lew & Schmidt, 2011). Steinrücke et al. (2023) describes self-reflection as reflecting on individual's own experiences and actions. Self-reflection, which can mean different meanings for each professional group (Brownhill, 2023), corresponds to the concept of teacher-self reflection when it is considered for teachers. Teacher self-reflection is the teacher's awareness of own behaviors in a situation such as an educational situation, asking himself/herself questions about why he/she chose these behaviors and trying to find solutions that will create alternatives to the relevant situation (Christodoulou, 2010).

Reflective practice strategies, seen as a way of making sense of events, should be integrated into teacher training programs (Maguire, 2022). Because the process of reflection requires the teacher to face the complexity of the context, enables students to learn better, and a reflective teacher can guide students to reflect (Rodgers, 2002). In various studies in the field of education, tools such as portfolios (Farahian et al., 2021), e-portfolios (Slepcevic-Zach & Stock, 2018), collaborative videos (Kerkhoff, 2022) have been used for self-reflection. The pre-service teachers in our study practiced micro-teaching as a reflective practice and performed self-reflection on this practice.

Micro-teaching

Micro-teaching is a technique first developed at Stanford University in 1963 to gain preliminary experience, practice, explore the effects of teaching under controlled conditions and to be used as an in-service training tool for experienced teachers (Allen, 1967). It is a controlled laboratory environment that provides an opportunity to focus on specific teaching behaviors and practice teaching under controlled conditions (Allen & Eve, 1968). Micro-teaching contributes to the development of pre-service teachers pedagogical skills with the "teach, criticize and re-teach" model (Karakas & Yükselir, 2021). Various researchers have offered different suggestions for the implementation process of micro-teaching.

Kroeger et al. (2022) stated that the micro-teaching process consists of four stages: (1) planning, (2) implementation, (3) individual reflection, and (4) collaborative assessment. According to the researchers, micro-teaching is a limited implementation system that makes it possible to focus on specific teaching behaviors. Teacher candidate who prepares a lesson plan for the learning outcome, teaches his/her peers for 10-20 minutes. Subsequently, the student who watches the video recording engages in self-evaluation and the process is completed with the assessment of peers (Kroeger et al., 2022). Demirel (2017) summarized this process as (1) preparing a lesson plan suitable for the given task, (2) micro-teaching and video recording, (3) watching the lesson and assessment by students, listeners and the teacher, (4) making arrangements in the lesson plan according to the criticisms, (5) micro-teaching again, and (6) re-assessment of the improvements made based on the feedback (Demirel, 2017).

Nowadays, applications such as micro-teaching 2.0 constituted by using digital technologies are also implemented (Ledger & Fischetti, 2019). Micro-teaching is a practice that contributes to pre-service teachers becoming ready for the profession and becoming lifelong learners (Arslan, 2021) by establishing a theory-practice connection by following current developments and integrating them into the process (Maguire, 2022).

Purpose of the Study

This study aims to reveal pre-service teachers' self-reflections on micro-teaching practices. For this purpose, the study sought to answer the following research questions:

- What are the strengths of pre-service teachers according to their self-reflections about micro-teaching practices?
- What are the weaknesses that pre-service teachers consider themselves according to their self-reflections about microteaching practices?

Method

Model

This study, which aims to explore pre-service teachers' self-reflections about their own experiences on micro-teaching practices, was carried out with a qualitative approach using data collected with the Self-Reflection Form. Basic qualitative research design from qualitative research designs was used in the study. Qualitative research is concerned with the process of meaning construction, as well as how individuals derive understanding from their own lives and surroundings. The fundamental objective of a Basic qualitative research is to unveil and elucidate these significances (Merriam, & Tisdell, 2016). In this study, basic qualitative research design was preferred because PTs' self-reflections towards microteaching practices were aimed to be examined.

Sample and Population

The participants of the study consisted of 117 pre-service teachers who took the Micro Teaching (Elective) course at the faculty of education of a state university in Türkiye in the 2021-2022 academic year. The participants were pre-service teachers in the second, third, and fourth grades of the departments of mathematics teaching, science teaching, preschool teaching, classroom teaching, English language teaching, special education teaching, counseling and guidance, Turkish language teaching, and social sciences teaching. The participants of the study were selected by criterion sampling method, one of the purposive sampling methods. Criterion sampling involves the thorough examination and analysis of all instances that satisfy a predetermined criterion of significance (Patton, 2015, pp. 425). The criterion was determined as enrolling to Micro Teaching (Elective) course.

Data Collection Tools

The qualitative data of the study were obtained with the "Self-reflection Form" prepared by the researchers. This form consists of two open-ended questions about the strengths and weaknesses that pre-service teachers noticed during the micro-teaching process.

These questions:

-Identify the three strengths of your micro-teaching. Explain these strengths in relation to learning/teaching theories, approaches and methods.

-Identify three weaknesses/needs to be improved in your micro-teaching. Explain the reasons for these weaknesses and how they can be strengthened by relating them to learning/teaching theories, approaches and methods.

The students were asked to give three opinions because it was observed that the students gave short answers in the pilot study. During the development of the form, the opinions of two field experts were consulted and the appropriateness of the questions in terms of content and content was ensured.

Collection of Data and Analysis

The data collection process was carried out in accordance with the following stages;

- Selection of the attainment: Each pre-service teachers selected a course appropriate to their own field and a educational attainment from the curriculum of this course.
- Preparation of the lesson plan: The pre-service teachers prepared a lesson plan in accordance with the attainment and students' grade.
- Doing the lesson and taking the video of the practice: A classroom environment was created where pre-service teachers were able to apply and record their lesson plans. Peers were in this class as students. Video recording was made while the pre-service teachers was doing the micro-teaching practice.
- Sharing the video recording with academic members and peers: The video recording of the practice was shared with the academic members and peers for assessment.
- Assessment of the video content by peers using the "Peer Assessment Form": The faculty member developed a form for the assessment of the pre-service teachers by the peers and informed the peers about how to evaluate the pre-service teachers with the form. The Peer Assessment Form has evaluation items such lesson planning, time management, use of materials, tools, etc., enthusiasm, joy, energy and confidence, power to realize the target attainment, etc., and open-ended questions for the strengths, weaknesses and suggestions of the pre-service teachers.
- Written assessment of the video content by the faculty member: The opinions of the faculty member about the video recording were given to the pre-service

teachers in written form. These opinions include the strengths and weaknesses of the pre-service teachers regarding the planning, implementation and assessment of the course and the suggestions of the faculty member.

- Sharing the opinions, evaluations and suggestions of the faculty member and peers about the course with the pre-service teachers: The faculty member and peers shared their written opinions, evaluations and suggestions about the pre-service teachers' practice with the pre-service teachers.
- Self-reflection by the pre-service teachers: The pre-service teachers evaluated the micro-teaching practice in writing with the "Self-Reflection Form", taking into account the evaluations of the faculty member and peers.

The data were analyzed by content analysis method following the steps suggested by Schreier (2014, p.174). The contextual appropriateness of the self-reflection forms was checked during preparation of the data. As a result of this analysis, four forms were found to be inappropriate for the context of the research and were removed from the study. In accordance with the research questions, the strengths and weaknesses of pre-service teachers in micro-teaching practices formed the coding framework of the research. After the construction of the framework, the forms appropriate to the context were pre-examined and it was seen that the strengths and weaknesses were expressed for the planning, processing and assessment steps of the lesson. Therefore, planning, processing and assessment were determinate as categories. Then, the data were segmented according to the constructed framework and the pilot coding phase was conducted. At this stage, a researcher did the pilot coding of the data. When the pilot coding was completed, the researchers came together and carried out the main analysis phase of the data. At this stage, the codes obtained in the pilot coding were reviewed and a second coding was conducted. The codes with disagreement were discussed by the researchers and the codes were constructed by consensus. The main analysis was completed by combining the codes and constructing sub-themes. The findings are presented in tables according to the constructed frameworks.

Ethics Committee Approval

At all the stages of this study, a great care was taken not to violate the ethical rules and ethical rules were precisely followed. Ethical approval for the study was obtained because of the decision numbered 284521 and taken in the session numbered 16 on Sept. 19, 2023, by the Ethics Committee of Sakarya University.

Findings

The themes in Table 1 emerged in the categories of planning, processing and assessment within the framework on their strengths after the content analysis.

Table 1

Themes Emerging from Psts' Own Reflections on Their Strengths on MT

Category	Themes	Description
Planning	Integrity of the plan	Integrity of the lesson process from beginning to end / time management / planning of the activity
	Strategy/Method/Technical appropriateness	Choosing appropriate strategy/method/technique during planing
	Suitability of the material	Appropriateness of the prepared/used material for the teaching process and the student
Process	Lesson Management	Factors related to the lesson from the beginning of the teaching process (e.g. body language, active participation, reinforcement, mastery of the subject, concretization, etc.).
	Use of Materials	Proper and effective use of prepared materials
	Classroom Management	To be able to involve students effectively in the teaching process
Assessment	Achievement of outcome	Gaining the targeted attainment at the end of the teaching process
	Feedback	Using feedback during and after the teaching process

The themes in Table 2 emerged in the categories of planning, processing and assessment within the framework on their weaknesses after the content analysis:

Table 2

Themes Emerging from Psts' Own Reflections on Their Weaknesses on MT

Planning	Suitability of the material	Lack of utilization of instructional technologies, inappropriateness of the prepared materials to the course content and insufficient number of materials
	Integrity of the plan	Disconnected course integrity due to lack of connection between activities
	Strategy/Method/Technical appropriateness	The strategy methods or techniques used are not appropriate for the course content or that more appropriate strategy methods or techniques can be used
	Attention, attraction and motivation	Lack of attention or interest in the course content, difficulty in connecting with daily life, inability to motivate learning
Process	Lesson management	Problems related to the lesson from the beginning of the teaching process (e.g. body language, active participation, reinforcement, mastery of the subject, concretization, etc.).
	Classroom Management	Lack of effective student involvement in the teaching process

	Use of Materials	Lack of correct and effective use of the prepared materials
	Limitations of micro-teaching	Problems and lack of focus due to the nature of the micro-teaching process
Assessment	Achievement of outcome	Lack of gaining the targeted attainment at the end of the teaching process
	Feedback	Inadequate or no use of feedback during and after the teaching process

Planning

PSTs emphasized their weaknesses more than their strengths for planning category. The PSTs stated that their strengths were that they were able to manage the time correctly in preparing the lesson plans and that they were able to prepare lesson plans that included well-rounded activities and had integrity. PST 13 stated that "...*the lesson plan is integrated...*" PST 26 stated that "...*the integrity of the topic is strong...*" and PST47 stated that the lesson is in an "*interconnected process*".

More of the PSTs mentioned that they realized that they were not able to manage their time properly and activities and examples were not suitable for the grade level as their weaknesses. PST64 stated that "*disconnections occurred during the role-play activity*" due to the inaptitude of the plan. PSTs mentioned that time management is the most crucial point that they need to improve in the plan flow. PST15 stated that "*I could have provided more time for each child to express their thoughts.*" and that their inability to manage the time prevented the students from revealing their thoughts more. PST27 stated that "*I should have waited for a certain time for the students to take notes.*" and that the students could not take enough notes due to the inability to manage the time.

PSTs mentioned that the appropriateness of strategies, methods, and techniques, including interactive and various techniques together, were their strengths. PSTs used a variety of strategies, methods, techniques, and approaches. PSTs such as PST32, PST25, PST81 mentioned the discovery learning in their answers, but PST29 said "using many teaching strategies", PST40 mentioned 5E model, PST62 and PST30 mentioned drama, PST101 mentioned group discussions, PST53 mentioned the experiment method, and PST86 and PST108 mentioned preparing "...*student-centered lesson...*". PSTs emphasized that they need to improve themselves and they should use techniques that include discovery learning and involve students more in the process. PST19 emphasized that "*I could have encouraged students to discover and research more*", but PST46 emphasized that "*they could have been enabled to discover the information in their own minds rather than by giving it*".

PSTs expressed preparing appropriate materials was their strengths. However, opinions has shown that, the appropriateness of the material of the PSTs is evaluated as the appropriateness of the material to the student grade or the attainment. A few PSTs mentioned that they prepared materials appropriate to both elements. PST53 stated that the material was " appropriate for the attainment to be achieved" and PST28 emphasized that the material was "*entertaining for students*". Despite this, most of the PSTs mentioned that the quantity and quality of their materials were insufficient and they did not integrate ICT into their lessons.

PSTs express that one of the strengths of the planning process is that they provide attention, interest, and motivation by designing activities related to daily life. PST34 "*...students are not bored...*" PST37 "*...interesting...*" considered themselves successful in preparing activities. However, they stated that they could have made the introduction to the lesson and the beginning of the activity more interesting and felt inadequate in increasing the motivation of the students.

Process

PSTs emphasized their strengths more than their weaknesses for process. They most commonly stated that they had strengths and weaknesses in the process step. PSTs consider themselves strengths mostly in lesson management. PSTs stated that they ensured active participation, achieved strong communication/interaction, were able to attract interest and attention, and had an expression, diction, voice, and body language appropriate to the grades of the students. But still, the PSTs mentioned that they did not do complete lesson management as a whole. Although they expressed their strengths at this point, they said that they especially needed to improve their diction, voice, and oratory abilities. PST117 mentioned that he realized that "*it was difficult to gather the attention of the children on myself because my tone of voice was always on the same level...*" and PST17 stated that "*I had difficulty in using my tone of voice adequately in a crowded classroom*". PST76 "*...I think I should use my gestures and mimics more effectively, I realized that my facial expression was a bit serious on the video and I should smile a little more.*" and stated that he needed to improve himself in this context.

Many PSTs reported that they felt excited and nervous because there were many PSTs who were lecturing for the first time, and therefore they had difficulties in controlling the process. PST30 "*I was excited and could not manage the time well*", PST32 "*my pronunciation was distorted because of my excitement.*", PST69 "*I could not manage my*

excitement, and often wandered a lot in the classroom". Excitement affected PSTs differently. However, examining the effect generally, PSTs forgot to do their planned activities, and their oratory, emotion, and body control weakened due to the excitement.

A few PSTs stated that they had problems in the application process of the activities, they realized at the moment that they had inadequate preparation for the lesson, they were unable to control the board and notebooks, and they could not apply their methods and plans in the process as they had planned. The differentiating and remarkable factor in the process of lesson teaching is the codes received for the micro-teaching process. PSTs expressed the negativities caused by the characteristics of the micro-teaching process as the points to be improved. PST38 and PST30 stated that "*...in a real classroom environment...*" they would perform better. PST52 "*because I had my peers in front of me*" and PST117 expressed that "*acting as if there was a child in front of me without having*" affected them.

Assessment

Assessment was the least opinioned category by the PSTs. PSTs expressed that they ended the lesson by applying a lesson process of activities appropriate to the attainment and hence they achieved the learning outcome. PST46 "*the lesson plan being prepared based on the attainment*", PST69 "*teaching the attainment to students by using techniques appropriate to their grade level*", and PST96 considered "*the activity being appropriate to the attainment*" as teaching outcomes to students. Interestingly, the point they focus on in this process is the teaching process. A small number of the PSTs stated that they achieved the outcome via the assessment activities at the end of the process. Most of the pre-service teachers who stated that they achieved the outcome assumed the students to have achieved the outcome due to their successful completion of the teaching process.

PSTs expressed that they needed to improve themselves in this regard, and they focused on two circumstances while expressing that they could not achieve the learning outcome. The first one focused on assessment and assessment activities instead of the process. PST38 "*I could increase the assessment activities.*" and PST8 said, "*I could make an evaluative study.*" They consider inadequate or non-existent assessment as a failure to achieve the outcome. Another case is that, PSTs considered themselves inadequate in the process and stated that they could not achieve the outcome. PST62 "*I had difficulty in fully teaching the topic to the students because it was an intangible topic.*" and PST71 said that "*I could have had the students apply activities that would enable them to make measurements at*

their desks." and they considered they could not be achieved the outcome to the students sufficiently due to their weaknesses in the process.

Few of the PSTs focused on feedback. PSTs stated that they saw strengths in feedback by giving immediate feedback during the lesson, but they did not ask open-ended questions, did not summarize, and did not use reinforcements such as "well done" sufficiently.

Discussion and Results

This study aimed to examine the strengths and weaknesses of pre-service teachers from different branches studying at the faculty of education towards micro-teaching practices through self-reflection. Unlike previous studies in which PSTs did reflection during teaching (e.g. Kourieos, 2016), this study was based on Schon's (1983) reflection-on-action theoretical model. Studies indicate using more than one source for feedback on micro-teaching is effective (Erdemir & Yeşilçınar, 2021; Onwuagboke et al., 2017). Feedback from the faculty member, the peer, and own performing the micro-teaching could lead to a more effective reflection on the micro-teaching. The data were collected from the self-reflections of 117 pre-service teachers taking the micro-teaching optional course by watching their videos after reading the feedback of their peers and faculty members. PSTs' watching their own videos and their friends' videos helps them discover their strengths and weaknesses, contributing considerably to their future lessons (Ismail, 2011; Koross, 2016; Ogeyik, 2009; Saban & Çoklar, 2013).

Practices in micro-teaching courses in faculties of education enable pre-service teachers to make self-assessment and improve their teaching skills. This study differs from other studies (Dağ, & Temur, 2018; Farahian et al., 2021) by including the self-reflections of pre-service teachers of nine different branches studying in faculties of education. This qualitative study is based on three categories: planning, processing, and assessment, as in Maguire's (2022) research. The self-reflections of the pre-service teachers on micro-teaching practices, the findings regarding their strengths and weaknesses themselves were discussed under the categories of planning, process and assessment.

Micro-teaching process contributes to PSTs in terms of planning the lesson (Göçer, 2016; Karlström & Hamza, 2019; Koross, 2016). PSTs expressed that they realized their weaknesses in planning the lesson more than their strengths in the micro-teaching process. Although the inability to establish a connection between the activities in the theme of plan

flow was seen as a weakness by the PSTs, the strengths were the planning of the activity and time management. Koross (2016) similarly states that micro-teaching improves PSTs in time management. PSTs emphasized that the number of materials was low and was not appropriate for the content of the lesson. Besides PSTs who stated that they were able to determine appropriate strategies, methods, and techniques for the lesson, there were also PSTs who expressed that they could have chosen more appropriately. Micro-teaching requires to be planned according to the target group, learning outcomes, content, and assessment stages in the curriculum. In contrast, inexperienced PSTs focus on direct instructional content (Karlström & Hamza, 2019), which may be one of the reasons they consider themselves weaker in planning. Choosing activities in the planning of the micro-teaching process affects students' participation, understanding of the topic and the lesson flow (Karakaş & Yükselir, 2021).

PSTs' inability to choose their activities correctly and disconnect between the activities was one of the reasons for the problems in planning. PSTs, who regarded lesson management as their strengths most in the process, expressed that they provided active participation in the lesson, communicated well, drew attention and interest, used the materials correctly and effectively, and had an expression, diction, voice, and body language appropriate to the grade level of the students. Studies on micro-teaching practices show that PSTs improve their material development and use (Elias, 2018; Göçer, 2016; Ogeyik, 2009). Furthermore, the PSTs stated that they gained experience in classroom management through microteaching practices (Göçer, 2016; Ismail, 2011; Koross, 2016). According to Ogeyik (2009), through micro-teaching practices, PSTs can gain experience in dealing with undesirable behaviors and drawing the attention of careless students to the lesson. This study determined some problems in preparing materials and using them effectively in micro-teaching practices for a few PSTs. In Ogeyik's (2009) study, PSTs stated that they had problems in producing materials.

Assessment was the lowest opinion given by the PSTs. Basturk (2016) revealed that the PSTs had the most problems in the assessment and assesment field, used less alternative assessment and assesment tools, ignored students' misconceptions and difficulties, could not use instructional technologies effectively, and had problems in ending the lesson in micro-teaching practices. PT's have high belief levels in summative assessment and low belief levels in formative assessment (Şahin, & Karaman, 2013). Furthermore, PT's feel themselves weak in alternative assessment techniques (Evin Gencil, & Özbaşı, 2013). PTs may therefore not

have been able to use alternative assessment and evaluation methods in the process. PSTs expressed that they ended the lesson by applying a lesson process of activities appropriate to the learning outcome and hence they achieved the learning outcome. PT's measurement and evaluation knowledge is improving with the grade level but is still limited (Şahin, & Soylu, 2019). PTs may therefore have identified measurement and evaluation with the education and learning process. They might have thought that they achieved the attainment without measurement and evaluation because they considered the process successful. PSTs during and after the learning process have the idea that they do not give feedback or give insufficient feedback. As Elias (2018) expressed, micro-teaching practices can improve the assessment skills of PSTs in the teaching process.

Recommendations

This study revealed the self-reflections of the PSTs towards micro-teaching practices. PSTs stated that they had problems with the lesson flow caused by a lack of connection between the activities. In future research, it may be possible to analyze self-reflections on micro-teachings practiced with a planning to connect all the activities in the course with a script.

PTs focused more on their weaknesses in the planning theme of the research. Issues such as material development, time management, choosing the right Strategy/Method/Technical are factors that develop with teaching experience. For this reason, micro-teaching practices can be included more in teacher training programs.

PT's stated that they had difficulties with diction, voice, and body language. Although these topics are mentioned in the course contents in teacher training programs, PT's can be supported with a course within elective courses.

PTs expressed the least opinion in the measurement and evaluation theme. Moreover, they generally focused on the success of the teaching process instead of measurement and evaluation tools in this theme. For this reason, it should be underlined in teacher training programs that they should not ignore the measurement and evaluation process.

Ethics Committee Approval

At all the stages of this study, a great care was taken not to violate the ethical rules and ethical rules were precisely followed. Ethical approval for the study was obtained because of

the decision numbered 284521 and taken in the session numbered 16 on Sept. 19, 2023, by the Ethics Committee of Sakarya University.

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