

The Use of Self-Assessment in Improving Pre-Service Teachers' Professional Development

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Abstract: *The use of self-assessment in teacher training has been strongly suggested by researchers because these assessment tasks activate students, motivate them to participate in learning, and cause more oriented and effective learning. This study focuses on using self-assessment in teacher education for the purpose of exploring the benefits of self-assessment practices for the pre-service teachers' learning process and their professional development. Thirty-eight pre-service teachers participated in this study. Within the context of the study, every participant was supposed to perform a teaching practice by applying teaching methods. Pre-service teachers' assessed their own performances through a self-assessment form composed of two parts. The first part of this form includes a criteria-based scoring matrix, and the second part includes open-ended written questions. Analyses of the data showed that pre-service teachers perceive themselves as worst at 'efficient teaching practice' and best at 'using body language and gesture effectively' among the given criteria. When the data obtained from the written questions was analyzed, it was concluded that the pre-service teachers had the most difficulty following the teaching plan. According to the results, it can be argued that by using the self-assessment tasks, pre-service teachers realized their strengths and weaknesses; they recognized that they have difficulties with some competencies required for effective teaching and what they need to improve themselves.*

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Introduction

CONTEMPORARY approaches to assessment emphasize the learning potential of assessment, and now assessment is presented as a tool for learning. Researchers suggest that assessment procedures not only function as a tool for grading but are also used to follow students' progress and guide them in enhancing learning activities. It is also emphasized in the OECD's Assessment for learning report that assessment may also serve a formative function (OECD/CERI, 2008). In general, it is accepted that increasing the use of assessment for learning or formative assessment leads to more advanced quality learning (William et al., 2004). In classrooms, formative assessment supports the goals of lifelong learning, greater equity of student outcomes, raising levels of student achievement, and improved learning to learn skills (OECD/CERI, 2008). Effective implementation of formative assessment promotes lifelong learning competencies and autonomous learning (Clark, 2012).

A critical component of classroom formative assessment is student self-assessment, as it supports students in becoming self-directed and self-regulated learners. "Self-assessment refers to the involvement of learners in making judgments about their own learning, particularly about their achievements and the outcomes of their learning" (Boud & Falchikov, 1989, p529). Through self-assessment, students better evaluate the quality of their learning process and outcomes, comprehend strengths and weaknesses in their study, and revise accordingly (Andrade & Du, 2007, p160). Researchers emphasize the strengths of using self-assessment, which encourages students to become more autonomous in their learning and makes them think more deeply (Sluijsmans et al., 1998). Boud et al. (2015) suggest that students cannot be effective learners without the skills to make efficient judgments about their own work. Using self-assessment to support the acquisition of skills and abilities gives students the opportunity for better quality products, taking responsibility for one's own learning, and raising consciousness about problem solving (Sluijsmans et al., 1998). Sadler and Good (2006) argue that self-assessment is valuable, as this approach prepares students to be accountable and responsible. Using self-assessment enhances learner responsibility and independence (Spiller, 2012). The participation of students in the assessment supports their ability to think critically and enables them to take control of their own learning. By analyzing their own performance, students can develop a better understanding of their own learning process (Searby & Ewers, 1997).

Besides improving skills and abilities for learning, self-assessment practices increase the quality of learning performance and outcomes. Self-assessment advances learning by giving feedback that guides students' efforts and strategies (Andrade & Du, 2007). Zimmerman and Shunk (2001)

suggest that self-assessment can promote achievement by contributing to academic self-regulation through planning, goal-setting, self-judgment, and self-reaction. Through improving self-assessment strategies, the development of metacognitive strategies can be stimulated (Clipa et al., 2011). Andrade and Du (2007) state that self-assessment has a role in becoming an autonomous, metacognitive, and self-regulated learner. Self-assessment also increases learners' competence for self-regulation by giving them the opportunity for self-monitoring and enabling reflection (Nicol & Macfarlane-Dick, 2006). It is stated that self-assessment is a key factor in retaining student attention and interest (Ross, 2006), and students' motivation can be increased when self-assessment is integrated into the learning process (Dochy et al., 1999). Hanrahan and Isaacs (2001) report that students see the advantages of self-assessment as improving critical thinking, developing a better understanding of grading, and developing empathy with teachers. Self-assessment enables students to develop leadership roles in the learning and teaching process.

Boud and Falchikov (2006) emphasize the necessity of preparing students for the responsibility of making complicated judgments and for making decisions in which they will find themselves in the future. It is especially substantial for future teachers. Self-assessment promotes some skills such as critical thinking, goal setting, making decisions, evaluating the learning process, and evaluating products, which are essential abilities for teachers. The incorporation of students in educational settings through self-assessment is one of the most significant ways to facilitate the development of crucial competencies for the teaching career, such as responsibility, autonomy, and judgment. These competencies can help develop 'reflexive teacher' qualifications. Self-assessment is also considered a reflective practice for teachers' personal and professional development (Warsi & Khurshid, 2022).

It is of great importance that training in using self-assessment is gained during teacher training (Oscarson, 1989). Researchers revealed that teachers who had been trained in formative assessment were able to make significant differences in their lessons (Clark, 2012). The application of self-assessment tools in teacher training programs has been found to be helpful in leading teachers to think over their own standards for qualified teaching and improving them in goal-setting for development (Ross & Bruce, 2007). The development of expertise in self-assessment has become a noteworthy issue in numerous higher education schools, and various self-assessment tools are being introduced to support learning (Stefani, 1994).

Because cognitive and social frameworks can affect the accuracy of the self-assessment, the reliability and validity of these assessment procedures seem debatable. The reliability of self-assessment can be affected by some factors, such as student grade level and academic success (Dochy et al.,

1999; Friedman et al., 2008). Boud and Falchikov (1989) stated that less successful students tend to overvalue their performance, while more successful students have a tendency to undervalue their own performance. In relation to the practice of self-assessment according to grade levels, it is reported that advanced students can evaluate their own performance more accurately than novices (Dochy et al., 1999). In addition, more experienced students seem to be straighter in their self-assessment (Lejk & Wyvill, 2001). According to a review of self-assessment research, Dochy et al. (1999) stated that students are quite accurate in valuing their own learning outcomes. However, according to Topping (2003), self-assessed scores seem to be higher than teacher scores (Friedman et al., 2008). Researchers propose various suggestions concerning these problems (Lindblom-Ylänne et al., 2006): clear assessment processes, implementing specific criteria, explicit instructions, training for the advancement of students' assessment skills, and also that the use of a scoring matrix may be beneficial.

Overall, from the research reports, it can be concluded that using self-assessment in educational practice has positive results, despite its limitations. Some of the students found the process intellectually challenging, time-consuming, and socially uncomfortable, but efficient in advancing the quality of their own work (Topping et al., 2000). Researchers reemphasized that self-assessment develops the students' understanding of assessment, helps students develop crucial professional skills using high-level thinking, increases efficacy in determining strengths and weaknesses of their work, enables student assessors to have a better understanding of the processes included in the learning activities, and provides students with the opportunity to take part in the assessment process, which increases their motivation (Andrade & Du, 2007).

Since self-assessment practices lead to more effective and directed learning because they motivate students and stimulate active involvement in learning (Sluijsmans et al., 1998), the application of these assessment procedures in teacher education has been promoted by researchers, and educators have been seeking ways to apply the self-assessment tasks effectively in their classrooms. This study aimed to empirically explore the ways and consequences of using self-assessment tasks in teacher training programs.

Method

Participants

The participants of the study were thirty-eight pre-service teachers from a state university in Turkey. Pre-service teachers were enrolled in the 'teaching principles and methods' course, which is a practical course. All of the

participants were in their second year and experienced in self-assessment. Of these, thirteen were male and twenty-five were female, with a mean age of 20.

Procedures

The course of teaching principles and methods targets students comprehension of the essential fundamental concepts and teaching principles, their grasp of instructional approaches and strategies, and their ability to apply them effectively. Within the applied part of the course, each of the pre-service teachers was expected to implement a teaching practice involving the application of a teaching method. Before the implementation of teaching practices, an example of teaching method application was demonstrated and explained by the researcher. Besides, the pre-service teachers were instructed in effective presentation skills as part of another course named Effective Communication by the researcher. Every pre-service teacher presented the subject content by applying a teaching method, and the sessions continued for approximately 30 minutes.

Data Collection

Pre-service teachers assessed their own performances through a self-assessment form. This form consisted of two parts, which comprised a criteria-based scoring matrix in the first part and written questions in the second part. The criteria of the scoring matrix are based on various substantial competencies for efficient teaching, such as effective teaching practice, comprehensible expression, management of time, being planned and controlled, and using gestures and body language effectively. These crucial competencies were arranged as specific criteria in a scoring matrix with informative instructions for providing an effective and objective assessment task. Based on the five assessment criteria, pre-service teachers graded their performances using the scoring matrix, which ranged from 1 to 5, yielding a maximum possible score of 25 points. In the second part of the self-assessment form, there were six open-ended written questions to reveal pre-service teachers' perceptions about their own performances. Some of the written questions were: 'What did I learn about myself when doing this work?', 'What did I do well?', 'What will I do differently at subsequent tasks?' Participants were familiar with self-assessment tasks, and they had experience evaluating themselves.

Data Analyses

Table 1. Descriptive Statistics for the Criteria of the Scoring Matrix.

Criteria	Mean	SD	Min	Max
Comprehensible expression	4.00	1.06	1	5
Efficient teaching practice	3.55	1.12	1	5
Being planned and controlled	3.88	1.02	1	5
Management of time	3.94	1.06	1	5
Using body language and gestures effectively	4.03	0.95	1	5
Total Self-Assessment Score	19.39	4.25	5	25

Descriptive statistics were determined for the pre-service teachers' self-assessment scores. The mean, standard deviation, minimum, and maximum values were calculated for the data collected from the scoring matrix. The data obtained from open-ended questions was analyzed through content analysis. Pre-service teachers responses were arranged by reducing the statements, coded, and grouped into related categories. Frequencies and percentages were calculated for the data collected from open-ended questions.

Results

Descriptive statistics, including mean and standard deviation and minimum and maximum values for self-assessment scores are summarized in **Table 1**.

The results of the analyses of the data collected from the criteria-based scoring matrix revealed that, through the given criteria, pre-service teachers perceived themselves as worst at 'efficient teaching practice' and best at 'using body language and gesture effectively'. They were also of the opinion that they were good at 'comprehensible expression', but in the meantime, they challenged their 'management of time' and 'being planned and controlled'. The minimum and maximum values in **Table 1** show that some pre-service teachers perceived themselves as very inadequate or very sufficient in various criteria. The criteria in the scoring matrix, in which the pre-service teachers evaluate themselves, were decided together with the pre-service teachers who were the participants of the study. While creating the self-assessment form used in the study, pre-service teachers were asked their opinions about the criteria they thought were necessary for effective teaching. Boud (2013) proposed the involvement of students in setting standards and/or criteria to be applied to their work and in making judgments about the extent to which they met those criteria and standards. It is stated that including students in defining the assessment criteria allows students to better understand what is expected of them (Ross, 2006). The criteria in the scoring matrix may not be exhaustive, but they are consistent with those reported in

the relevant literature. In the self-assessment form used within the scope of the study, open-ended questions were included apart from the criteria-based scoring matrix, and the analysis results are presented below.

The answers given by the pre-service teachers to the written questions were analyzed and coded by reducing the statements. The generated codes were collected in four different categories. These categories were strengths, weaknesses, difficulties, and needs for improvement. Descriptive statistics regarding the codes grouped under the relevant categories are presented in the tables below. In **Table 2**, the frequencies and percentages calculated for the statements of the pre-service teachers regarding their strengths are presented.

As can be seen in **Table 2**, ‘open, clear, and comprehensible expression’ is the most frequently coded statement regarding pre-service teachers’ strengths. They also feel themselves strong at ‘efficient presentation and teaching practice’, and at ‘tone of voice and body language’. Some quotations from the statements expressed by the pre-service teachers’ regarding their strengths are: “I was good at using body language and at communication with students”, “My tone of voice was good”, “I think that I was successful at effective teaching practice”, “I can speak open and clear; this is my strength”, and “I think that I could express myself clearly and easily”.

In **Table 3**, the frequencies and percentages calculated for the statements of the pre-service teachers regarding their weaknesses are presented.

Pre-service teachers perceive that being excited or nervous is their great weakness. Time management and classroom management are also among their weaknesses. Some of the pre-service teachers stated that they are weak at getting trusted or true sources. Even a little, they also feel weak at public speaking. Some quotations from the statements expressed by the pre-service teachers’ regarding their weaknesses are: “Because of my excitement, I could not be effective”, “After I entered the classroom, because of my excitement, I forgot some of my words that I had to say”, “I felt panicked when students asked questions”, “I could not use the time well; I made everything quickly”, “I know that I have a problem with public speaking; this is my weakness”.

In **Table 4**, the frequencies and percentages calculated for the statements of the pre-service teachers regarding the difficulties are presented.

As can be seen in **Table 4**, ‘efficient teaching practice’ and ‘implementing the lesson plan’ are the most frequently coded as difficulties. ‘Finding or selecting material’ is also seen as another difficulty considered by pre-service teachers. At the very least, preservice teachers stated that ‘lesson planning’ and ‘evaluating the lesson’ were the other difficulties they encountered. Some quotations from the statements expressed by the pre-service teachers’ regarding the difficulties are presented below: “I could not follow the lesson plan, therefore I could not finish the lesson as I planned”, “I had

Table 2. Frequencies and Percentages of Codes under the Category of 'Strengths'.

Codes	f	%
Open, clear, and comprehensible expression	13	30.9
Efficient presentation / teaching practice	6	14.3
Tone of voice / body language	6	14.3
Providing active participation	5	11.9
Effective communication	4	9.5
Being calm / controlled	3	7.1
Having a good grasp of the subject matter	3	7.1
Getting student attention	2	4.8

Table 3. Frequencies and Percentages of Codes under the Category of 'Weaknesses'.

Codes	f	%
Being excited / nervous	16	39.0
Time management	6	14.6
Classroom management	6	14.6
Getting trusted / true sources	3	7.3
Tone of voice / body language	3	7.3
Having a good grasp of the subject matter	3	7.3
Public speaking	2	4.9
Answering the questions	2	4.9

Table 4. Frequencies and Percentages of Codes under the Category of 'Difficulties'.

Codes	f	%
Efficient teaching practice	7	23.3
Implementing the lesson plan	7	23.3
Finding / Selecting material	6	20.0
Providing active participation	3	10.0
Exemplifying	2	6.7
Lesson planning	2	6.7
Evaluating the lesson	2	6.7
Getting student attention	1	3.3

Table 5. Frequencies and Percentages of Codes under the Category of ‘Needs for Improvement’.

Codes	f	%
Following the lesson plan	7	15.6
Effective exempling	7	15.6
Being at ease / Controlling emotions	6	13.3
Tone of voice / body language	6	13.3
Effective / Comprehensible expression	5	11.1
Classroom management	5	11.1
Time management	4	8.9
Speaking speed	3	6.7
Getting trusted / true sources	2	4.4

difficulty at teaching practice while I did not have enough experience”, “After the exercises, I had difficulty getting students attention again”, “I had difficulty at exempling while I could not find short and effective examples”.

In **Table 5**, the frequencies and percentages calculated for the statements of the pre-service teachers regarding the needs for improvement are presented.

‘Following the lesson plan’ and ‘effective exempling’ are the most important requirements for improving pre-service teachers themselves. Pre-service teachers need to ‘be at ease’, and they need to ‘control their emotions’, like excitement and worry. And some of them need to improve their use of ‘tone of voice’ and ‘body language’. ‘Classroom and time management’ are the other requirements that pre-service teachers need to improve themselves. Some quotations from the statements expressed by the pre-service teachers’ regarding the needs for improvement are presented below: “I could not follow the lesson plan. At this point, I need to develop myself”, “I need to improve myself at classroom and time management; I have to speak slowly and understandably”, “If I can control my excitement, I think my control in the classroom will increase”, “I could be more effective at questioning and exempling” and “I will do more practice for being good at time management”.

Conclusion and Discussion

This study aimed to provide empirical evidence for the contribution of self-assessment to pre-service teachers’ professional development. Findings of the research supported previously reported results that self-assessment improves students thinking critically and enables them to gain control over their own learning (Searby & Ewers, 1997), motivates students and encour-

ages their active involvement (Sluijsmans et al., 1998), makes them aware of strengths and weaknesses in their work (Andarade & Du, 2007, p160), and improves their performances (Boud, 2013; Falchikov, 1986; Hanrahan & Isaacs, 2001; Stefani, 1992).

The results showed that pre-service teachers perceived themselves best at 'using body language and gesture effectively', and they found themselves good at 'comprehensible expression'. On the other hand, they perceived themselves as the worst at 'efficient teaching practice'. Similarly, in another study, it was reported that the pre-service teachers were challenged mostly by the delivery of instruction, and from their perspectives, this issue was the most difficult part of the teaching-learning process (Borja et al., 2019). The fact that effective teaching practices require experience explains this result. In the current study, the results also revealed that pre-service teachers were challenged with 'management of time' and 'being planned and controlled'. In another study aiming to determine the problems experienced by pre-service teachers during their teaching practice, planning and time management were considered problematic (Tok, 2010). Since time management requires planning, it is an expected research result that time cannot be controlled as a result of not conducting the lesson in accordance with the plan. The responses of pre-service teachers' to the open-ended written questions revealed that they had difficulties following the teaching plan in general. They specified that the most challenging experiences were ensuring students' active participation, presenting effective examples, and managing classroom control. As a result of a study conducted by Welsh and Schaffer (2017) on developing effective teaching skills for pre-service teachers, they stated that the participants rated themselves lowest on engaging students in critical thinking, creativity, and collaborative problem solving. Similarly, in another study, it was revealed that the pedagogical area where pre-service teachers need the most improvement is engagement (Snead & Freiberg, 2019). Pre-service teachers in this study found themselves weak in public speaking, answering questions, and effective presentation. A great majority of the participants expressed that they were excited, and this affected their time management and tone of voice negatively. According to a very similar research result, pre-service teachers stated that they were nervous and anxious at the beginning of their teaching practice. Therefore, they stated that they had difficulty managing the problems and challenges (Akram & Samar, 2021). An important result of this study was that pre-service teachers' emphasized that they acquired a lot regarding classroom management, that the course content could be taught effectively with a teaching plan, and that there could be unexpected situations.

In light of the results of the present study, it can be argued that by using the self-assessment tasks, pre-service teachers became aware of their weaknesses and strengths, realized that they had difficulties with some com-

petencies required for effective teaching, and recognized what they needed to improve themselves. It can be concluded that self-assessment tasks mediated pre-service teachers taking responsibility for their own learning, thus enabling them to make more reliable assessments and allowing them to be reflective and autonomous, which are crucial skills for being an efficient teacher. As a result of a study, it was stated that they proved that self-assessment is a strategy to enhance teachers' professional development (Warsi & Kurshid, 2022). In another study aiming to identify teachers' professional activities that are important for the development of the teaching profession, it was revealed that self-assessment is among the most important activities (Sharma & Pandher, 2018).

Implications

This study hypothesized that self-assessment is an essential skill for teachers' professional development and plays an important role in the pre-service teachers' self-evaluation process. The results generally supported this hypothesis. Through self-assessment, pre-service teachers could make rational judgments about their own performances and outcomes. It was understood that they had realistic perceptions of their own abilities. They felt confident in valuing their own performance while taking responsibility for their own learning.

In teacher training programs, applying self-assessment in a formative way is expected to result in significant gains like improved learning performance, higher confidence for teaching practice, and competencies essential for effective teaching. The present study proposes to use the self-assessment process for improving the professional development of pre-service teachers, which enables self-reflection, self-monitoring, and self-judgment for reviewing pedagogical strengths and weaknesses and revealing the aspects that need improvement.

In this study, self-assessment was not used as a grading tool but to reveal how self-assessment could play a role in contributing to the development of the teaching profession. It may be possible to obtain more reliable and valid results from self-assessment tasks by clarifying goals and expectations, providing effective feedback, and presenting practices and examples. Self-assessment can be used in combination with other indicators or measures such as the teacher portfolio, classroom observation, and peer observation (Warsi & Khursid, 2022). In the same context, Ross and Bruce (2007) argued that self-assessment is a constructive strategy for improving in-service effectiveness, provided it is supported with other professional development strategies such as peer coaching, external observation, and focused input into teaching strategies. The use of self-assessment practices along with the instructor's feedback not only increases learners' immediate success

but also leads to enhanced self-efficacy by helping them develop their capacity for self-reflection and self-regulation (Hung, 2019).

Finally, although this study provided important evidence to demonstrate the effectiveness of self-assessment for improving pre-service teachers' professional development, other factors such as social and academic concerns that may affect pre-service teachers' self-assessment performance cannot be ignored. Diversified and similar studies are needed to validate or modify the design of the self-assessment practice. Since it is thought that increased experience in self-assessment can provide more valid results, it is thought that it is important to repeat self-assessment practices in educational settings. It is expected that the results of the research, in which repeated self-assessment applications are made, will provide more in-depth inferences.

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