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# Science teacher trainees' microteaching experiences: A focus group study

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Microteaching is widely used in many countries to prepare trainees for the complexity of the actual classroom environment but has limited use in Turkey. The main objective of this action research was to evaluate and increase in the effectiveness of microteaching, and determine the contribution of microteaching to trainees from their own perspectives through their reflections on their own experiences. Semi-structured focus group interview was carried out with 10 trainees out of 55 trainees who attended microteaching practices. The results ensured that against all the odds of microteaching, it is worthy to use microteaching practices to integrate theory and practice and train qualified teachers. Instead of just concentrating on its visible limitations, it would be better to concentrate on its advantages.

**Key words:** Microteaching, science education, teacher education, focus group interview.

## INTRODUCTION

In the process of becoming a qualified teacher, many aspects of the trainees must be developed. Trainees come to teacher education institutions equipped with a range of different knowledge and skills like: personal characteristics, interpersonal skills, motivation, educational experiences and Subject Matter Knowledge (SMK) depending on their pre-training schooling years. At the end of their training, a qualified teacher is expected to have developed a range of knowledge and skills. These differences are: challenging personal characteristics, interpersonal skills, focused motivation, acquisition of general professional knowledge and understanding of systems, practical experience of teaching, gaining additional SMK and particularly Pedagogical Content

Knowledge (PCK). This development is essential but, there is an uncertainty in the process of becoming a teacher (Shulman, 1987; Bennett, 1993, Gödek, 2002) and how trainee 'develops the ability to transform knowledge of science content into a teachable form' (Veal et al., 1999: 3). Moreover, processes and outcomes are seldom studied systematically (Korthagen, 2011). Since Dewey's (1904) in Korthagen (2011) notification, the gap between theory and practice has remained the central problem of teacher education world-wide. From this perspective, understanding the domains of the knowledge base for teachers is a prerequisite in improving the quality of teacher education and in formulating the ways in which the process of becoming a

teacher can be supported better by teacher education institutions and their partnership schools. In this process, the support provided to trainees by teacher education institutions needs to be analysed.

Microteaching is a widely used technique in many countries but still has limited use in Turkey in preparing trainees for the complexity of an actual classroom environment (Bulut et al., 2016). In this study, microteaching was applied in the scope of Special Teaching Methods- II course in the Department of Primary Science Teacher Education, in a Turkish State University. The main objective of this action research was to evaluate and increase in the effectiveness of micro-teaching, and determine the contribution of microteaching to trainees from their own perspectives through their reflections on their own microteaching experiences.

## Knowledge base of teachers and reflection

In the literature, the research tradition (process-product research) which focused on the characteristics, behaviours and effectiveness of teachers, by examining the relationship between teacher characteristics (process) and students' achievement (product), is criticised since it focuses on teacher behaviour rather than teacher thinking with the focus on 'process'. Researchers (Wilson, et al., 1987; Aubrey, 1997; Shulman, 1999; Kılıç, 2010) suggest that, teacher education should focus on 'how' teachers teach, rather than 'what' they teach.

In the research on teachers' professional knowledge for teaching, there are various categories of knowledge base generated by researchers (Elbaz, 1983; Wilson et al., 1987; Shulman, 1986; Shulman, 1987; Grossman, 1990; Furlong and Maynard, 1995; Carlsen, 1999; Turner-Bisset, 1999; Gödek, 2002). Still, there seems no clear understanding as what constitutes teachers' knowledge base. Shulman (1986, 1987) who introduced the term 'Pedagogical Content Knowledge' (PCK), regards it as a vitally important element of teachers' knowledge base and defines it as it 'represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organised, represented and adapted to the diverse interests and abilities of learners, and presented for instruction (Shulman, 1987). Even though researchers agree that PCK is an essential element of successful teaching, there seems no consensus as to exactly what it is made up of (Shulman, 1987; Grossman, 1990; Marks, 1990; Geddis et al., 1993; Cochran et al., 1993; Fernández -Balboa and Stiehl, 1995; Magnusson et al., 1999; Turner-Bisset, 1999; Gödek, 2002). The complexity of the nature and the ambiguity in the content of teachers' knowledge base and PCK, may explain the reason of preparing teachers is such a complex process.

There are various views concerning the development of teachers' professional knowledge base. For example, for Fuller (1969), the transformation of SMK into PCK is not the concern of trainees, since, in the process of becoming a teacher, trainees progress through four different stages in terms of their concerns, which are 'no concerns at all', 'survival concerns', 'teaching concerns' and finally 'pupils' learning concerns'. In contrast, Wilson et al. (1987) believes that even beginning teachers do 'invent' PCK. For Grossman (1990), 'classroom observation as a student' and 'as trainee and their own memories'; 'disciplinary education during their first degree'; 'professional education/teacher education programs' and 'classroom teaching experience' are the sources of teachers' knowledge base. On the other hand, 'learning from experience' Cochran, 1992 in Coble and Koballa, 1996: 468 Gudmundsdottir, 1995), 'trusted colleagues' (Appleton and Kindt, 1999: 3), 'observation of classes', 'disciplinary education', 'specific courses in teacher education -knowledge of pupils' conceptions as well as knowledge of specific representations or teaching activities', 'classroom teaching experience' (Van Driel and De Jong, 1999: 3), contribute to the development of PCK.

Even though teaching experience seems to be one of the major sources of teachers' knowledge base, simply 'having to teach' does not seem to guarantee the development since, the transformation of SMK into PCK and the development of PCK do not seem to be an automatic or mechanic processes (Lederman and Gess-Newsome, 1992, Fernández-Balboa and Stiehl, 1995; Veal and MaKinster, 1999). In this process, 'pedagogical reasoning' seems to be crucial (Wilson et al., 1987). Pedagogical reasoning involves 'a cycle through the activities of comprehension, transformation, instruction, evaluation and reflection. The starting point and terminus for the process is an act of comprehension (Shulman, 1987: 14). Therefore, learning from experience might be achieved if teachers engage in the processes of pedagogical reasoning and reflection (Shulman, 1987; Wilson et al., 1987; Bennett et al., 1993). Reflective thinking enables one to learn from her/his own experiences, makes her/him to be aware of the sources of its own unconscious behaviour (Korthagen, 2011: 36). Therefore, trainees should be supported in teacher education institutions to gain experience and learn from their experiences.

In this respect, the use of technology to view and listen to one's teaching performance is a precious experience because by 'analyzing a recording of the dynamics of your classroom, you can check the accuracy of your perceptions of how well you teach, identify those techniques that work and those that need revamping' Gross-Davis, 1993: 34 in Donnelly and Fitzmaurice, 2011: 6. Thus, one of the ways of providing experience for trainees is 'microteaching'. Microteaching enables trainees to observe each others' performance by analyzing and reflecting on their experiences. It also

helps trainees to be aware of their own deficiencies in their Subject Matter Knowledge and develop their Pedagogical Content Knowledge (Akanbi and Usman, 2014).

**Microteaching**

Microteaching was first developed by Allen and Ryan at Stanford University, California in 1963 to improve teaching skills by providing trainees with a reliable training environment in which they could practice before taking up actual classroom teaching (Allen, 1967). Allen and his colleagues defined microteaching as 'a scaled-down teaching' in which 'the trainees are exposed to variables in classroom teaching without being overwhelmed by the complexity of the situation'. Allen suggested limiting the class size to one to five students and class time from five to twenty minute lessons. Microteaching has been developed to serve three purposes: '(1) as preliminary experience and practice in teaching, (2) as a research vehicle to explore training effects under controlled conditions, and (3) as an in-service training instrument for experienced teachers' (Cooper and Stroud, 1966 as cited in Allen, 1967:1).

Since its inception, microteaching has been used as a powerful tool for teacher education and each teacher education institution developed its own concept of microteaching (Seidman, 1968). Therefore, there are various definitions and practices of microteaching. For example; Seidman (1968) evaluated microteaching from behavioural psychology perspective and defined microteaching as an application which supports trainees in terms of predetermined minimum teacher behaviour. Since microteaching is based on the assessment of behaviours, it can be used in the evaluation of the development phases of professions such as; trainees of technicians, consulting, engineering and teaching, during their pre-service period (Ülper et al., 2015).

Currently, microteaching could be defined as the implementation of the knowledge and skills related to teaching in a controlled class and a limited time, identification and overcoming the deficiencies through the use of feedback. Microteaching aims to reduce the complexity of the actual classroom environment by limiting content, time and the number of students (Akanbi and Usman, 2014; Marulcu and Dedetürk, 2014), to support trainees to become familiar with the teaching profession, and to learn from their experiences (Kuran, 2009).

It should be noted that microteaching should not be assumed as just video recording of the event and then (transmitting to people) having someone to watch it. Rather, the feedback is one of the most crucial and integral parts of microteaching (Bulut et al., 2016). The original model of microteaching consists of six interrelated stages: planning, teaching, observation-criticism, replanning, re-teaching and re-observation-criticism (Allen, 1967; Arsal, 2015). So that, microteaching leads and requires trainees to do reflective thinking which enables one to learn from its own experiences, make her/him to be aware of the sources of its own unconscious behaviours (Korthagen, 2011: 36). In other words, microteaching prepares trainees for the pedagogical reasoning.

Inspite the fact that Allen and his colleagues suggested using video recording as optional, the video feedback is considered to be attractive and valuable (Kazu, 1996; Ülper et al., 2015). In microteaching, trainees are given the opportunity to watch and analyse their teaching, and reflect on their experiences, then develop their own teaching performance. Furthermore, through watching and analysing their classmates' teaching, trainees also have the opportunity to learn from others performance (Görgen, 2003; Bilen, 2014). When evaluating the trainees without watching the video recording, trainees seem to be easily offended, whereas after watching their own performance, they exhibit a more realistic attitude and assess themselves objectively (Kazu, 1996; Arsal, 2015).

The proliferation of microteaching is relatively new in Turkey. It was first implemented in 1989 and used for the first time in 1990-1991 in a two-hour class at the Technical Training Faculties as part of the YOK/World Bank Second Industrial Training Project (Uşun and Zorlubaş, 2007 in Bakır, 2014). Then, it was involved in teacher training programs in 1996 by the same project (Kazu, 1996). Currently, in Turkey, Faculties of Education are responsible for teacher education. Training period of primary science teachers is four years in the Faculty of Education. Field courses, teaching profession courses and general education courses are included in the curriculum. Special Teaching Methods I-II courses are essential for trainees to learn teaching methods. One of the course contents of Special Teaching Methods-II course is microteaching practice (Atav et al., 2014).

In spite of its various proved advantages, the use of microteaching is not that widely spread in Turkish teacher education institutions. For example, in a survey to examine the implementation of microteaching in three well-known Universities (Gazi, Anadolu and Hacettepe) in Turkey, Çakır (2000) asked teacher educators about their views and thoughts regarding the use of microteaching. Teacher educators claimed that they knew about microteaching and were giving teaching methods courses. However, they seemed to be reluctant in giving attention to microteaching and in implementing it in their lessons, due to the limitations in the universities, deficiencies in resources and trainees' lack of recognition of the value of method courses.

In the last two decades, studies carried out in Turkish teacher training institutions on microteaching are

promising. There seems to be tremendous increase in the research on microteaching in Turkey, in different subject areas including early childhood teacher education (Taşdelen et al., 2009), computer education and instructional technologies (Can, 2009), mild mental disabilities teacher education (Deniz, 2010), music teacher education (Koca, 2013), science teacher education (Kartal, et al., 2012; Canbazoğlu et al., 2014; Bakır, 2014; Karaman, 2014), biology teacher education (Atav, et al., 2014), elementary mathematics teacher education (Bilen, 2014), mathematics and information technologies teacher education (Ülper et al., 2015), Turkish language teacher education (Bulut et al., 2016).

In the literature, numerous studies aimed to identify the applicability of microteaching in Turkish teacher education system (Kazu, 1996), to reveal the impact of microteaching on the aspects of trainees' instructional behaviours (Görgen, 2003; Güney, 2008; Erdem et al., 2012; Uzun et al., 2013), reflective thinking (Güney, 2008; Dervent, 2015), critical thinking dispositions (Arsal, 2015), conceptions, attitudes and abilities (Karaman, 2014), changes in beliefs (Görgen, 2003); the problems encountered during teaching and their solutions (Gürses et al., 2005; Baştürk and Taştepe, 2015), teaching skills (Kuran, 2009; Deniz, 2010; Chamundeswari and Franky, 2013; Bilen, 2014; Bakır, 2014), competencies (Taşdelen Karçkay and Sanlı, 2009; Kılıç, 2010; Saban and Çoklar, 2013), speaking skills (Bulut et al., 2016), and self-awareness in improving verbal lecture skills (Ülper et al., 2015).

Some studies also focused on the trainees' reflections on microteaching (Can, 2009; Koca, 2013; Hacısalihoğlu Karadeniz, 2014; Duban and Kurtdede Fidan, 2015), to point out its positive and negative sides, its difficulties and the advantages (Atav et al., 2014; Bilen, 2014; Bakır, 2014), to determine the opinions towards technology-enriched microteaching activities by considering Technological Pedagogical Content Knowledge (TPACK) framework (Canbazoğlu Bilici and Yamak, 2014), and to evaluate and develop microteaching courses, and its procedures (Marulcu and Dedetürk, 2014; Yangın Ekşi and Aşık, 2015).

## METHODOLOGY

In this qualitative research, action research as a theoretical framework was utilized. Action research not only aims to describe the existing situation but also aims to improve the practice (Yıldırım and Şimşek, 2005). Action research is 'an orientation to knowledge creation that arises in a context of practice and requires researchers to work *with* practitioners' (Huang, 2010: 93). In this action research, the researcher who is the course instructor, worked *with* trainees, with the aim of both evaluating and increasing the effectiveness of microteaching, and determining the contribution of microteaching to trainees from their own perspectives through reflections on their own microteaching experiences.

One of the four basic methods that can be used to collect the

data in qualitative research is focus group interview. In the literature, the terms of 'focus group interview', 'focus group discussion' and 'focus group study' are used. In this study, the term, focus group interview was used. In the focus group interview, participants' knowledge, experiences, feelings, perceptions, thoughts and attitudes are more important than reaching the generalization; therefore, it is aimed to describe the views and perspectives of the participants (Çokluk et al., 2011). Hence, in order to reveal and describe the participants' views in-depth, a semi-structured focus group interview was used. Focus group interview first emerged in 1930 alternative to interviews (Gizir, 2007). Focus group interview could be defined as carefully designed environments in which the individuals freely reveal their ideas (Casey and Krueger, 1994). In the focus group interview, the main aim is to understand people's thoughts, feelings (Taşdere, 2014), 'ideas and attitudes as they develop through group interaction and exchange' (Kelly, 2003).

## Participants

This study was carried out in the Department of Primary Science Teacher Education, in a Turkish State University. Prior to the semi-structured focus group interview, the researcher (the course instructor) informed trainees about the aim of the study, explained the focus group interview process, and asked for their voluntary participation. Ten (six men and four women) out of fifty five trainees in their fourth year voluntarily participated in the focus group interview session. In order to protect the identity of participants, pseudo names were used.

## Data collection

This study was carried out in the scope of Special Teaching Methods-II course by the researcher (the course instructor) with the participation of a research assistant (Hakan- pseudo name). In the beginning of the term, trainees were given information on the content of the course and microteaching practices. Trainees were also given an opportunity to watch and assess some examples from previous years' microteaching practices. Each trainee was given a concept/topic from 6th, 7th and 8th grade Primary Science Curricula. A timetable was agreed on for each trainee's microteaching practice.

1. Trainees prepared approximately 40 min of lesson planning in accordance with constructivist theory through 5E learning method.
2. In the microteaching practice, trainees were expected to explain and teach the concepts/phenomenon rather than simply lecturing.
3. They were free to choose and try different teaching techniques, demonstrations, experiments, models or analogies in accordance with their topic.
4. They were asked to mimic, as if they are teaching at the actual class. So, a trainee pretended to be a classroom teacher, the classmates and the course instructor pretended to think like pupils.
5. Each session took about 20 min and was recorded by a video camera.
6. Each record was watched together in the classroom in the following weeks. The trainee was first asked to evaluate herself/himself, and then evaluations of the classmates were taken. Final evaluations were made by the course instructor and the research assistant. All evaluations were made orally.
7. The original model of microteaching consists of six interrelated stages; however, due to the intensity of course content, class size and time limitation, six stages of microteaching could only be applied to approximately one fourth of the trainees. For  the rest of

trainees, microteaching consisted of three stages: planning, teaching and observation-criticism.
8. All trainees' lesson plans were also individually evaluated and a written feedback was given by the course instructor.

One of the ways of improving the quality of education is by providing student satisfaction concerning the educational services (Özçakır Sümen and Çağlayan, 2013). Teacher educators, who are aware that reflection is also crucial for them, should give importance to student satisfaction, evaluate their own teaching through the feedback from their students, and re-construct their teaching. So that student satisfaction surveys can be prepared to determine the quality of educational services; individual or focus group interviews should also be carried out by taking into account students' feedback to determine the course content (Şahin, 2009).

Therefore, in this study, the researcher aimed to evaluate and increase the effectiveness of microteaching in the scope of Special Teaching Methods-II course, and to determine the contribution of microteaching to trainees through their reflections on their experiences from their own perspectives.

The sub-problems of this study were:

1. What are the positive and negative experiences of trainees concerning microteaching?
2. How were crticism (feedback) perceived by the trainees?
3. What are the contributions of microteaching to trainees?
4. What are the concerns of the trainees during their microteaching practices?
5. What are the suggestions of trainees regarding microteaching practices?
Prior to focus group interview, the participants were asked for their permission to record the interview with a video camera. The researcher mainly asked 12 open-ended questions. During the interview, the researcher allowed group interactions so that the conversation took place among all participants as they interact with each other in a friendly environment. Therefore, participants talked in depth, chose their own words and freely revealed their own views. Participants felt more comfortable being with others as they were familiar with each other in the same class or in the same department for four years. The interview took place in the faculty's science laboratory and took approximately one and a half hours.

### Data analysis

Data collected through focus group interview, were transcribed into written texts and then analysed by using descriptive analysis. For this purpose, based on the interview questions, the coding and categories which were primarily serving the research objectives were determined. Responses were analyzed by using open coding which is the part of analysis that pertains specifically to the naming and categorizing of phenomena through the close examination of data (Yıldırım and Şimşek, 1999). To determine the inter-judge reliability, the data and the categories were examined by two independent experts from the department of Primary Science Education.

Through discussions, a common agreement was reached on coding and categories as suggested by Lincoln and Guba (1985). Data were described and interpreted by addressing cause and effect of relationships. In order to reflect participants' ideas effectively, direct quotations were also provided. Finally, two previously designated experts examined the findings in order to see whether they confirmed the findings and interpretations (Yıldırım and Şimşek, 2005).

## RESULTS

In this study, the results drawn from the data collected through focus group interviews were analysed in five categories. These are:

1. Trainees' positive and negative experiences concerning microteaching,
2. Trainees' perceptions concerning the critiques,
3. Contributions of microteaching,
4. Trainees' concerns during microteaching,
5. Suggestions of trainees regarding microteaching practices.

### Trainees' positive and negative experiences concerning microteaching

In this study, trainees were asked about their experiences concerning their microteaching practices. They stated that they had both positive and negative experiences (Table 1). Half of the trainees stated that microteaching was an artificial environment. Teaching their classmates created difficulty for trainees.

*"… at the moment it looks difficult, because everybody has subject knowledge. You don't know what you are teaching, because everybody knows, I mean, it is worrying" (Hasan).*

*"I absolutely agree with the artificial environment. It creates tension"* (Funda).

*For Funda, it was difficult to watch herself and take the criticisms.*

Funda: *"I hate mirrors!"*
Researcher: *"Why?"*
Funda: *"Watching myself looks like mirror feature".*
Researcher: *"Is it because of seeing the reality?"*
Funda: *"It is because of taking the criticisms".*

Despite the negative experiences pointed out by trainees, all of them remarked that they had positive experiences. Microteaching allowed them to gain some experience:

*"…it provides great experience in the suppression of excitement"* (Hasan).

It helped them to realise their own mistakes:

*"…for the first time, we had a class facing each other and you have no other choice than that the camera is recording you and you're going to watch yourself. You can really see your mistakes. 'Oh, I'm like! I'm doing this! My voice was like! I'm standing like this!', so it was nice. It*

**Table 1.** Trainees' experiences concerning their microteaching practices.

| Experiences | | Frequency |
|---|---|---|
| **Negative experiences (5)** | Artificial environment (peer group, high level questions and teaching to the group who knows) | 5 |
| | Difficulty in watching her/himself and taking the critiques | 1 |
| | Microteaching allowed to gain some experience | 5 |
| | It was useful to realise own mistakes | 3 |
| | Microteaching gave opportunity to observe unconscious behaviours | 3 |
| **Positive experiences (10)** | Microteaching allowed to feel like a teacher | 3 |
| | Being criticised and detecting the mistakes were useful | 1 |
| | Microteaching allowed to be more careful and not to make mistakes | 1 |
| | It was useful to be prepared for the classroom management | 1 |
| | Learned how to manage time | 1 |

*was really nice to see ourselves"* (Funda).

*"… we saw our deficiencies. We had some inputs from our friends' deficiencies. More or less, we had communication, we had different things. We corrected their deficiencies and also learned from that. So it was good, not only ourselves, we evaluated everyone. As a class, we came to a common conlusion"* (Ayşe).

Microteaching gave opportunity to observe own unconscious behaviours:

*"…when a teacher looks at the classroom, he/she should see the deficiencies, I think if some pupils are talking or some are fighting, at the moment I do not see them. The video showed me that. If I am going to explain something, I have only this in my mind, I don't see anything else. So the video showed me that. I hope that I can change these in the future"* (Ali).

*"…at the end of microteaching, I felt like I have acted unconsciously, I even did not see the students next to me, I mean, even though my actions were purposeful, I could not see anyone, but I felt like I was just myself. So, it was like I was acting unconsciously, I was explaining but it was like self-developing, I was talking but I was not controlling it, it was like that"* (Bahar).

*"…during the lesson, the things behind the classroom, people talking, none of them took your attention. But someone spoke there, one stood up and went somewhere but you do not interfere in any of them, you do nothing. You just explain the topic. For example, you can see it in microteaching. For example, someone is talking; somebody is breaking something, maybe doing something. You only explain the topic. Rather than see*

*them, you are only talking. The most important point is this; for example, you only see them when you watch yourself. You can say 'why and how did I not see it?' For example, you do not realize it when you are teaching [during microteaching]"* (Hasan).

Microteaching allowed trainees to feel like a teacher:

*"The fact that in my four-year university life, this was an effective course in which I felt myself as a teacher, was good ... I had the joy of being a teacher"* (Umut).

*"For the first time in my life, it was real teaching experience for me"* (Ali).

*"For the first time, in this lesson, we felt like a teacher"* (Osman).

Trainees individually indicated that being criticised and detecting the mistakes were useful, microteaching allowed them to be more careful and not to make mistakes, it was useful to be prepared for the classroom management and it helped them to learn how to manage the time.

*"Both self-evaluation and peer evaluation, as well as the evaluation by faculty members. I think it is very important. This, I think is the most important feature of microteaching…. It is crucial to be observed and criticized by others and to accept and tolerate the criticisms. I think it was very nice in this sense. … I was nervous about microteaching. …I started to prefer not to say anything wrong in microteaching. Perhaps the biggest factor was being recorded"* (Bahar).

*"Regarding class management, if we would directly face*

**Table 2.** Trainees' views concerning to think like a pupil during microteaching.

| Was it difficult? | Frequency |
|---|---|
| Yes, it was difficult | 5 |
| Yes, it was difficult but it was a nice experience | 1 |
| No, it was not difficult, but it rather was useful | 4 |

*the pupils, we would have trouble with it. In fact, it was such a preparation. First, share something at your level, explain, then, when we start teaching, this [experience] will provide a great advantage to us"* (Hasan).

*"…microteaching taught us that in 20 min, a topic could be taught, even though it is short, microteaching taught us to give the essence of the topic, this is the aimed"* (Emel).

Trainees were asked how they felt when they first watched themselves. They described this experience as "nice feeling which gives happiness, makes them proud, like comedy, amazing-weird and frightening".

*"Actually, it is likely to see a provision of your labor, such as growing a tree; you see the tree is growing. For example, it is also very very different, when you share your recording with your mother, father or a friend, and watch yourself, you feel so proud of you and say 'this is me!' ... when my father said, 'Yes, that's my boy! He became a teacher!' I was very happy. At that moment, you do not care about subject knowledge, you see that your father is watching you wearing a suit and teaching, your father's watching makes you already happy"* (Hasan).

*"Mine seemed to me like a comedy, when I was watching myself, I felt like that but I saw my gestures and facial expressions against the reactions throughout the 20 min, I said that 'oh yeah, I can manage this work in some points but I still have some deficiencies in some points. I need to pay more attention, I need to go back to review something to go further'. At first, you have an upright position. In fact [you think that], I can manage this class…' but towards the end of the video you feel buckled. You no longer manage the class rather the class directs you. Towards the end of the video you feel fed up"* (Umut).

*"…at first, it is scary, so you're scared. You see yourself there [on the video], you think 'what did I do wrong?', but when you go on watching, you see that you did the opposite, sometimes you do not like it when you get the reactions"* (Emrah).

Trainees were asked whether they found it difficult to think like a pupil when they are attending microteaching practices (Table 2). For most of them, it seemed difficult to show empathy and think like a pupil at the level they were going to teach. Their knowledge concerning the pupils was either higher or lower than the level of pupils that they were going to teach.

*"…it was very difficult for me. Eventually, it was something that I knew. When I asked the questions, it seemed to me as if it was nonsense. If I know something why should I have asked it again? So, I could not think personally, as I went behind the camera for recording. I said, 'I should record'. I said that 'I should not ask a question"* (Ali).

*"Either participation in the lesson or participation of students, I tried to ask questions but I thought that some silly questions were ahead of us. It sounds ridiculous to us. We were thinking about 'how should I ask a question', but even though we knew, we could not manage it. Sometimes, some friends were asking some questions, we were replying 'how such questions [silly questions] could be asked anyway"* (Emrah)?

*"…When we experienced it, we had to think in a childish manner. Nonsense! Even when we are watching, 'how such question could be asked?' When our friends were asking, we thought that 'how such question could be asked? How a child would ask such questions as if he/she is 5 years old"* (Funda).

Osman too found it difficult to show empathy with pupils but stated that it was a nice experience.

*"Ultimately, you play the role, but besides the difficulties, it had some nice parts. 'I wonder what I should teach. Do I need to teach it like that?' So, these are nice thoughts"* (Osman).

Three participants pointed out that thinking like a pupil at the level they are going to teach was easy for them because, their observations during the "School Experience Course" was useful to them. For example,

*"In fact, I think it is not difficult but the greatest factor is that teaching practice classes of the 'School Experiences Course' were useful. If we did not have this [opportunity]*

*and we tried to do this lesson with our third year knowledge, it would be much more difficult. Of course, there are some friends who cannot emphatize [and think like pupil], but I think it was useful"* (Bahar).

For Hasan, thinking like pupil and asking questions at their level were also helpful for his friends who were teaching at that time.

*"It was easy for me. For example, I tried to ask questions like an elementary school student would. To help my friends, for example, I was doing it on purpose. Normally, it sounds ridiculous to me, but innerly, there is a person who is presenting a topic and when something is going wrong, you need to intervene. I was asking some easy questions to give some time and provide an opportunity to think. It was easy for me to achieve but also beautiful"* (Hasan).

**Trainees' views concerning the critiques**

Trainees were asked about the stages of microteaching they found most useful. The evaluation stage was indicated by the majority of them (seven) as the most useful stage. At this stage, they seemed to start to reflect on their experiences.

*"...evaluation was the most beneficial part because, I made two presentations, okay, in the first I was inexperienced... when I watched myself and the reactions from my friends and from you [the course instructor], I think that they were so useful, because I saw my mistakes and in the second presentation, I tried not to make those mistakes again"* (Emel).

*"...for me too, the most important phase was the evaluation phase. Because if someone receives the critiques, even though it is hard or good, when I have been criticised, I had a paper in my hand and I noted both negative and positive of your [the course instructor] criticism and I looked at all of them and I looked constantly and read them, when I read them and watch myself and evaluated myself, when I recon these are my weaknesses and these are my strong points, I mean, when I did self-criticism, the problem is slowly disappearing and turns into experience, seems it will be transformed"* (Osman).

Trainees, individually also pointed out that other stages of microteaching were also useful.

*"I give great importance to the preparation stage because in order to give something [teach], I researched so deeply and so broadly. … For me, at the last point of the fourth year, as a university student, it directed me to make*

*research. …some deep questions, critical questions were asked and you feel that you need to answer those questions, therefore, I tried to collect the information both from the Internet and from faculty members; this reminded me that I am a university student"* (Umut).

*"I think, the things made by the student are more important in terms of the memorability in mind. ... Well, without knowing there will be no assessment, I mean, you have to give a good foundation, I mean the explanation phase"* (Sinan).

*"I think different, indeed it constituted a whole, it was a whole, I think all parts were important, I could not choose the most important part, I think all were important"* (Hasan).

Trainees seemed to show different reactions in accepting the criticisms. Hasan and Emrah stated that in the beginning, it was difficult to accept the criticisms so they showed emotional reactions.

Hasan: *"For example, I have been highly criticized, either it was good or bad, at first, you think emotionally, and you are flying, 'how come he/she says this:*
Researcher: *"First, you have already reacted".*
Hasan: *"Yes, I've already lashed out. Then again, when you watch yourself you realize it after watching ourselves. 'Well, actually, it happens, it is right, a legitimate criticism', and you think ... From this point, initially, you approach emotionally, then, when you watch yourself and after a little thought, you realize, you say 'yeah, something like that and they are right!"*
Researcher: *"Was it constructive?"*
Hasan: *"Sure. First, it is offensive but then you notice that it is constructive but first you should not think emotionally".*

*"But sometimes we are defensive, immediately want to interfere and give an answer. On one hand, it is nice. On the other hand, first, we want to be objective, but that is nice too. After a certain time, when you think about it, you justify it. Madam, for example, when I am doing wrong in problem solving, all the time I think the same way but when I get help from someone, I develop a different thought or different method of problem solving. So that, you can solve the question in that way. In this sense, it is very important"* (Emrah).

Despite their initial emotional reactions, trainees also seemed to learn to accept the criticisms. For Funda, learning to accept the criticisms was a process which requires cognitive conflict.

*"Madam, what I said previously we did, it was lecturing, not explaining. What we saw were just the grades. So*

*that, we were not open to criticisms but in order to learn, there should be a conflict in our minds, it is similar to that. First we got angry with the course instructor then, we said 'oh yeah, they are actually right'* (Funda)!

*"About the criticisms, I stood up in front of the class, first you [the course instructor] gave the criticisms ... then my friends criticised me. During the criticisms ... I felt resentment, but at the same time I thought, 'these are things that are actually mine and you [the course instructor] were actually pointing on my weaknesses. What you [the course instructor] are saying should not hurt me. Moreover, this should come as a warning to me'. I learned not to be offended while being criticised and take them as a warning. I noted the criticisms as I said earlier"* (Osman).

*"One of the values of microteaching was to measure a person's stamina against criticisms. I think none of the criticisms were needless. Some might hurt but to be offended may vary from person to person. After all, you give great effort and perhaps you're faced with unwelcome criticisms"* (Bahar).

*"Madam, I think the criticisms were normal. ... I did my own criticisms more than you [the course instructor] did. So, I pointed out 12-13 criticism for myself then you [the course instructor] did add no extra criticisms. Therefore, I did not see any harm"* (Ali).

*"While we are teaching, we only focused on the topic. We were not fully aware of everything outside, but our friends told us that they had more experience. For example, our friends who observed us externally, had a better view than us, and said that 'you did this and that wrong'. The criticisms made by the instructors were constructive for our development and important to see our weaknesses"* (Sinan).

Furthermore, Ayşe, Hasan, Funda and Sinan indicated that it was difficult to accept the criticisms due to the kind of criticisms made by course instructors who concentrated on PCK and the research assistant (Mr. Hakan) who concentrated on SMK. Therefore, they felt in a dilemma. For them, the criticisms should be made on PCK rather than SMK. Actually, the dilemma pointed out by them seemed to be related to their concerns.

*"In the beginning, being criticised made me feel a bit weak. I said 'okay. I should compensate for the second practice'. I also noticed that I could not express myself and my subject knowledge seemed incomplete. For the second practice, to be honest, I did not want to prepare at all, at first, a reluctance was developed for the course. Then, preparing a material came to my mind. Then, when I was preparing the materials, I thought that explaining the topic might be a bit more enjoyable. I thought that my*

*materials might entertain a bit. I thought that my performance would enjoy myself too. …That's why I came to the second practice a bit more enthusiastic because of the materials. … Criticisms were a bit disheartening. So, I did not expect this much because I felt like that. You [the course instructor] evaluate pedagogically. Mr. Hakan [research assistant] evaluates in terms of subject knowledge. I said this repeatedly that we are feeling a dilemma. When I was planning, I also felt this dilemma"* (Ayşe).

*"The contrasting situation is that during the lesson, there are questions related to subject knowledge but during evaluation, this was not the case. No, while I was asking a question, he could look at my gestures. My responses to the students, how I try to save the day? … Am I able to give answers that will satisfy the students? It would be nice, in the evaluation; pedagogical assessment would be more useful rather than subject knowledge assessment…. So, at this point, the reality goes beyond this because in real class environment, there are not much questions because the teacher had to intervene after a while. My presentation went through in the form of questioning and answering. Inevitably, you feel that you need to respond because Mr. Hakan [research assistant] evaluates your subject knowledge"* (Hasan).

Umut, Emrah, Sinan and Hasan pointed out that due to criticisms made on their SMK; they had to focus on SMK. They felt that they had to answer all the questions asked by their classmates, so that they had some deviations from their lesson plans.

*"We thought the method only in the report [lesson plan] in the planning phase but while teaching, you do not stick to the lesson plan. You want to explain something or want students to discover something; but then someone asks a question then you feel like you have to answer that question; at that time what you're trying to do and your plan completely changes"* (Umut).

*"What you are saying and the plan you prepared, do not match with each other"* (Emrah).

Particularly, on their second teaching, trainees felt that they have to shape their lesson plans according to the questions asked in their previous teaching. Therefore, they felt that they were restricted.

*"In the first one, it is your established order; you're doing it yourself, you're determining the direction of the lesson, in the second, in line with criticisms, you feel like you are entering in a mold, so it seems a bit dull"* (Sinan).

*"In the first presentation, it went so funny and beautiful, but in the second presentation, it was completely a different format. I turned 180 degrees. … For example,*

*you set a plan or program based on the criticisms and experiences, and obey that plan. For instance, in the second presentation, this was my fault, you say that you are not going to do that, but you do not have the same excitement and improvisation like in the first presentation"* (Hasan).

In contrast to these views, Funda indicated that in her first microteaching practice, she felt that she was in the middle of *"a devil's triangle"*. However, in the second microteaching practice, she felt herself very comfortable due to criticisms as she knew her strengths and weaknesses.

*"For a moment, I felt as if I was in the middle of a devil's triangle, 'where am I?', 'where is Mr. Hakan [research assistant]?', 'where is the classroom?'. For a moment, you stop, wait a moment, calm down, get a grip on yourself, on where are we? Yes, let's continue, where were we? But in the second presentation, it is different, you are so comfortable, you are familiar, you know your weak points, you know how to make them quite, 'be quite', 'see you later', … I don't bother with class management. … I feel comfortable in my class and have eye contact with everyone, I know their existence… [after the evaluation]. This time, you already did your plan, you have control of the subject. Because you know your mistakes [you say to yourself], 'okay I can do it', they say this, you know, 'ok, I will not do this next time', you predict the questions more or less, you feel comfortable. In the second practice, we did not study that much, personally I took a glance, corrected my plan, so I was comfortable* (Funda).

Negative but objective criticisms were useful to see the reality.

*"Friendship is something, business is another. While being criticised, the truth is spoken. They said the truth that 'you did something wrong at this point"* (Sinan).

*"For example Ali, a close friend of mine, at the points you [the course instructor] found me positive, Ali dragged me through the mud. Then what happened? I said 'thank you my brother, how happy I am that you could say that'. In this respect, it is good. For example, some friends whom I do not have any contact with, criticised me positively. My best friend dragged me through the mud. In this respect, it is a beautiful experience. For example, imagine that you evaluate something positively but your friend might evaluate it negatively. Here, we see how useful the criticism is"* (Hasan).

*"I always tell my close friends that when you evaluate me, please always tell me my weaknesses. Even though they are my friends, I don't want to hear words that would*

*flatter me. I really would like to have a sincere critique. I really like microteaching, I enjoyed it a lot"* (Bahar).

It was interesting to reveal that trainees also prepared for the criticisms. They had rehearsals at their home.

Ali: *"Madam, we have also made preparations for the criticisms. Bahar came to our home and could not eat anything. My grandmother said that 'it is enough!' then, stopped us. I asked her a lot of questions".*

Bahar: *"I was in the preparation stage. It was two days before my microteaching practice. We were in Ali's house. 'Ready?' he asked. 'Well, yes' something like that. Suddenly, he started, the questions were repeatedly asked, and I was doing 'hum and haw', little bit faster and faster. It was really an exercise for me. I was ready for the criticisms the day before my microteaching practice".*

*"Madam, in a similar way, in our living room, Hasan or Yıldırım were pretending to be Mr. Hakan [research assistant], or someone was pretending to be you [the course instructor]. We were doing rehearsals"* (Osman).

*"…for example, before you [the course instructor] evaluate us, we evaluate ourselves in advance. ... We are trying to assess ourselves from your [the course instructor] perspective. When you [the course instructor] start to evaluate us, we say that 'yes, we had made them'. … When doing our own assessment, we predict your [the course instructor] criticisms. In that respect, most of the time, before the evaluation phase, we have already evaluated ourselves"* (Hasan).

At the end, for trainees, taking the criticisms meant that the class took them into consideration.

*"If no one criticizes you, it means that you have fallen on deaf ears. 'Well, I have not been listened to in this class. They have not listened to me so that they do not make any criticism"* (Funda).

Moreover, for trainees, the criticisms made by their classmates were useful since the criticisms created a friendly and supportive environment:

*"Some friends to whom I never talked in the class ... I said to myself, 'Ok, I'm in this class, I've been here with this friend, but we did not have any conversation for four years". I had my microteaching practice, then, she was evaluating my teaching and telling me some positive things. I said 'okay, no matter how we do have no contact'. … We evolved into an environment of companionship. This made me very happy. While in the classroom, nobody ever said that 'I do not talk to her/him; there is no need to talk about her/his teaching'. Even*

**Table 3.** Contributions of microteaching.

| Contributions | Views | Frequency |
|---|---|---|
| **Pedagogical content knowledge** | We learned different teaching techniques from our classmates' teaching (4)<br>We applied different teaching techniques (1)<br>We have learned to look at critically different techniques (1)<br>I have a doubt concerning the applicability of some techniques (1)<br>I learned about the constructivism (1)<br>I started to question and learned that it is important to guide pupils to reach the knowledge rather than transmit the information (1) | 7 |
| **Professional awareness** | Self-teacher attitude, teacher confidence and sincerity are important (4)<br>Increased awareness concerning continuing professional development (4)<br>It is important to express her/himself, use language correctly, and create own style (1)<br>Our perspective towards pupils has changed (1)<br>Our perspective towards profession has changed (1) | 6 |
| **Subject matter knowledge** | We realized the necessity of strong SMK (3)<br>We realized our weaknesses in SMK (1) | 4 |

*though we did not have any communication, people expressed 'what was nice and what was bad'. I liked this very much. I really liked those things which did not happen in my four years but happened in the course"* (Umut).

*"While a friend was teaching, we always tried to be the savior. ... There was excitement, the camera, everything was effective. We were asking questions which already had answers. "Teacher, was it like this? Then, just when we showed her/him the way out, some sort of a union formed amongst us in the classroom"* (Ayşe).

## Contributions of microteaching

Trainees were asked whether microteaching had any contribution to their knowledge base. Their views indicate that they seem to make reflections on their experiences. The contributions identified can be summarised in terms of Pedagogical Content Knowledge, professional awareness and Subject Matter Knowledge (Table 3).

Trainees pointed out that through microteaching, they had a chance either to try or experience different teaching techniques.

*"In the course of 'Conceptual Perceptions in Science' we learned the card sorting technique. ... I wanted to do something different, for example. ... I thought that it would be different to use a 'V-diagram' which has not been used in this course. It was a technique which has*

*not been used in our class. I chose to be different. They were very nice to me. I do not know whether it captured attention of my friends"* (Bahar)?

*"Concerning our friends' teaching, there were some techniques which I thought 'well, it would be better if he/she taught in this way' or 'yes, I am going to use this method in my teaching'. Either it was an experiment or a technique. I thought that I will also use it in the future"* (Emrah).

*"For example, Prediction-Observation-Explanation, I know-I wonder, then Card-sorting technique used by Ayşe, they all pleased me so much"* (Umut).

*"...for example, we said that 'it would be better if we did like this'. ...there were some which we hold up as an example"* (Osman).

Despite these views, Hasan was doubtful concerning the applicability of the techniques in actual classrooms.

*"To be sure, we are going to be teachers, I hope we all really will. I think that none of these activities [methods and techniques] are going to be used. What is a Card Sorting or Word Association Test? … How are you going to use them? We've got a lot of topics to teach. In the Teaching Practice School, the teacher taught and finished the unit of evolution in 40 min, then switched to a different unit. We hardly described the concept in only 20 min. Keep using the V-diagram in it. I do not believe that they [these methods and techniques] could be applied in*

*real life"* (Hasan).

Funda commented that she has learned to look at critically different techniques.

*"…the use of teaching methods is nice, and we also could say that 'he/she used this method, but it did not suit this topic' or 'at this stage it would have been nice if he/she had done this"* (Funda).

Umut pointed out that he started to question, and learned that it is important to guide pupils to reach the knowledge rather than simply transmit the information.

*"I would say for myself, I gained a lot. ... For example, we're talking with Emrah about electric current. It stems from a magnet. Emrah said, 'What are the properties of that magnet?' So I asked Mr. Hakan [research assistant]; 'Why magnet pulls iron, nickel and cobalt but does not pull other substances?'. Then, we started a research on magnets. 'How is the structure of a magnet?' We went to get the answer from other faculty members. After a little time, such questions as 'why the electrons move?', 'How come the electrons are moving?' arose. I have studied the research carried out by scientists including Faraday and Maxwell on this issue. Increasingly, I realised that I knew nothing about electricity. 'Why electrons move?', 'why magnets pull them [some substances]?', 'What substances are in nature?' We were not directed to research. … Beginning from elementary school till now, we observed that teachers directly transmit the information to the pupils, and then they take their notes and memorize it. Teaching was this, but what happened, we came here, you are expected to guide the pupils to gain the knowledge"* (Umut).

Six trainees indicated that microteaching contributed to their professional awareness. As they specified, due to their microteaching experience they started to believe that "self-teacher attitude, teacher confidence and sincerity are important".

*"On the board, you should posses a self-teacher attitude. I grasped that. You should stand on your feet in front of the board, then, you should instill confidence that as an individual you are confident. Some of my friends were too passive in front of the class, but a teacher must be able to stand upright on the board"* (Umut).

*"At least, we've noticed the things that we knew as incorrect. A child does not care, does not want to listen or pretends to be listening to the teacher who is fainthearted even though he is fully confident in his subject area. But even though he does not know the answer of the question, his upright posture; I mean, 'ok, I am going to search and then give you the answer', … 'you should search too', 'let's search together', when you give that*

*trust, a child will be waiting for you and say 'my teacher knows everything'. If the teacher proves himself for several times, even though he does not know the answer, the child will not perceive him as he doesn't know. The child will subsequently say 'yes, my teacher knows!"* (Funda).

Furthermore, Ayşe indicated that using the correct language and teachers' own style of teaching is a necessity.

*"Madam, I recognised that no matter how much you know, no matter your subject knowledge is strong, expressing yourself is very important. As I watch myself, I understand that ever more. I said that 'I must learn standard Turkish language'. In fact, [on the video] I was using inverted sentences. … Also, each teacher has his/her own style and way; that's certain! They [classmates] all reflected their own style. … You should have your own mind, not a paper. This is really important"* (Ayşe).

Trainees also seemed to believe that continuing professional development is a necessity.

*"We have learned that we need to follow the current events. We also know that it is not teaching but the education system in which we have, I mean, this was the way it was thought. In the present, the system has changed and we recognised that we also need to change ourselves, this is due to microteaching"* (Emel).

*"…New teachers have to constantly renew themselves. Awareness is of upmost importance"* (Bahar).

Furthermore, Hasan also indicated that his perspectives towards pupils and the profession have changed.

*"… For example, my perspective towards pupils is changing. My perspective towards the subject is changing. 'When I become a teacher, I will do that'. In terms of the profession, you say that 'I should do this'. I should develop myself"* (Hasan).

Four trainees expressed their views regarding the contributions of microteaching in terms of Subject Matter Knowledge.

*"In fact, pupils feel whether their teachers know or not. From my observations, I noticed on the issue of circumlocution that, pupils actually expect an immediate answer, rather than statements such as 'let's investigate together!', which would deem the conversation into a circumlocution. Should we always respond? No, we also need to orient pupils to conduct research, but I think they [pupils] feel [whether teacher knows or not] what Is going*

*on"* (Bahar).

*"…At school, there are such pupils in 6th grade. For example, Emrah said that they [children] do not ask higher-level questions, but a child went and searched for the topic. Then he said, 'I heard that there is helium in space. What is Helium?' he asked. The teacher replied 'don't go there!' Because he [teacher] does not know actually. That child was asking such different questions, that I asked him: 'Where did you learn these?' The boy replied 'I did research in the internet'. I said 'well done! continue to ask these kinds of questions"* (Osman).

**Trainees' concerns during microteaching**

For all trainees, microteaching practice was exciting together followed by a mix of anxiety or happiness.

*"I recognised that the time is inversely proportional to emotions. As time goes by, something was even growing inside of me. Overall, I reconed, that my roommates said so. Each week, some of my friends were teaching, day by day; we were thinking 'what are we going to do?', 'how are we going to do?', and a sense was growing inside of me. I think it was exciting; the feeling that I can do something makes me happy"* (Osman).

*"Emotionally, it was exciting, because passing over something to people, giving something to people, experiencing something like that was very exciting"* (Umut).

*"Emotionally, it was distressful"* (Bahar).

*"It was not what I thought at the preparation stage. So I was afraid"* (Emrah).

Trainees made some criticisms concerning the questions asked during the microteaching practice. Hasan and Emrah found the questions asked by their classmates, as "irrelevant in relation to the topic".

*"There were so many silly questions. Our friend, who is teaching, was also faltering. I thought about it, I told the class [friends] that 'please do never ask such silly questions!' I mean, there were such ridiculous questions which are irrelevant to the topic"* (Emrah).

It seemed that Bahar was not sure about the level of the questions that could be asked by pupils. For her, the level of the questions asked by her classmates was higher than the level of the questions that could be asked by pupils.

*"Are such high level questions being asked in the academic context? Or should it really stay at the level of*

*school students"* (Bahar)?

On the other hand, Umut had difficulty in "time management". Prior to his microteaching, he prepared to increase his SMK in the topic of "electricity current".  He prepared a short lesson plan to allow some time for those questions which could be asked by his friends. However, no questions were asked at all, therefore he felt "like a fish out of water".

*"I went to the class and thought that during my teaching, my classmates would ask questions too, thus 20 min passed pretty quickly. I started teaching, and there were no questions. My planing allowed me to teach for only 6-7 min. After the 7 min, I started to think what I should do to fill the the rest of the 20 min?... I prepared for how I can explain better at the 6th, 7th grade level, but when no questions were asked, at that moment I felt like a fish out of water"* (Umut).

Trainees were asked whether they were worried during their microteaching practice (Table 4). All of them mainly seemed to worry about their Subject Matter Knowledge:

*"Madam, I was stressed! I focused more on Mr. Hakan [research assistant] rather than the classroom … I thought about the kind of questions he was going to ask. … I was thinking and thinking, I mean, I could not sit down and write the plan, I had so many things going on in my head. If I could not write a little longer, I was going to cry. At the end, I came to that point because I was stressed since Mr. Hakan assessed our subject knowledge"* (Emel).

*"The topics were distributed and I got 'electricity current'. When I first heard my topic; I told myself that 'we had the same topic in Science Laboratory Course last year. I had these kinds of questions in that course before. I wonder how much I still know about it.' I asked myself. I realized that I do not have sufficient knowledge about electricity current so, what could I possibly teach the children?  I tried to improve myself in that matter. There are magnets. I wondered how magnets can bring electrons to vibrate and create an electric current. I made researched about this. A university student should not accept everything; they should make research and develop themselves. Through this course, for the first time I went into research"* (Umut).

*"… We know more or less a bit from all topics, but we have to know our topic in-depth. ... At least, we should have knowledge on creating a question in the minds of our students. This leads me to feel pretty flurry. Emotionally, I was shaking. How will I manage this? What should I do? Would it be more accurate to say it there? No, no, I should say this. In the beginning, I was excited*

**Table 4.** Trainees' concerns during microteaching.

| Concerns | Frequency |
| --- | --- |
| Worried about subject matter knowledge | 5 |
| We had some deviations from our lesson plan due to the questions asked | 4 |
| In general, I prepared for the questions to be asked | 1 |
| Strong SMK brings self-confidence | 1 |
| Teaching method | 1 |
| Failure | - |

**Table 5.** Trainees' suggestions concerning microteaching practices.

| Suggestions | Frequency |
| --- | --- |
| All teacher trainees should definitely experience microteaching | 10 |
| The aim of microteaching should be the development of PCK rather than SMK | 10 |
| There should not be any restriction on the choice of teaching methods | 5 |

*... I got even more excited. I was good in the classroom [during teaching]"* (Bahar).

*"At the moment we are still teacher trainees. How can we possibly know for what and how long we are going to be assigned to teach in the next year? The preparation phase has always been about subject knowledge; as to those issues such as what I know and how I am going to convey them accordingly. I first prepared that, then I was going to learn the topic and how I am going to convey it. My preparation did not focus on those kinds of questions which could be asked and blah blah blah, you know the drill. If I know the topic, I can answer the questions. I just went on this way"* (Ali).

Trainees were asked whether they had any concern of failure however, none of them mentioned that they worried to fail.

*"Madam, to tell the truth, I had no worry about the grades because [I believed that] we spend a great effort and we would get rewarded for that effort. I did not get concerned because of the grades so that perhaps the course also got enjoyable"* (Umut).

The only concern mentioned by Bahar is that she only worried about whether her microteaching was going to be widely accepted.

*"I was not concerned about the grade I would get, but rather I was worried about whether my presentation will be good or not, and whether it is going to be accepted or not. I did not have any concerns regarding the grades"* (Bahar).

**Trainees' suggestions**

Trainees pointed out some suggestions concerning microteaching practices (Table 5). All the trainees agreed that microteaching should be applied to all teacher trainees due to advantages of microteaching.

*"I think microteaching definitely should continue, because it really adds a lot of great things to you. I've also told you, last year I was not be active in Special Teaching Methods class due to school-related and personal problems. Even I can say that I have not seen the full 5E method. I can only say that I just know its name. Even being such a student, I reckon that I am quite ahead at the moment, both being critical and using it [5E model], it was very good. I absolutely think that all teacher trainees should receive a micro-teaching course at least once"* (Bahar).

Trainees suggested that there should be focus on PCK rather than SMK so that, their SMK should not be the focus of evaluation rather, their PCK should be evaluated.

*"Madam, for me, the evaluation of subject knowledge was not suitable for this course. Questioning subject knowledge is indeed a very important issue…. but I think in this course, subject knowledge should not come to the forefront. In all our speeches, the first thing that we mentioned was that we actually prepared for the subject and subject knowledge. The primary purpose of this course is not subject knowledge. Certainly, we must know and ...it is very good for us to see our weaknesses. Everyone agrees with this, but if the aim of this course is*

*methodology, we should evaluate this more"* (Ali).

As mentioned earlier, trainees were asked to prepare their teaching in accordance with the 5E model. Even though they were free to use teaching techniques, trainees suggested that no restrictions should be made in choosing the teaching methods.

*"There should be no method restriction, everybody should use whatever method they wish. You should be able to select the method depending on the topic. Even though everyone had different topics, some were using the same methods. Some methods were not suitable for other topics"* (Emrah).

*"Then any methods except lecturing should be expected"* (Funda).

*"Or you should give some specific methods. For example you should leave five methods to choose from. Because like 5E, as they say, maybe I'm using it because I was forced but it is not my style and this might reduce my performance. That's why I would say that this is a much better method [then I choose it]. Maybe my performance might increase"* (Ayşe).

## DISCUSSION

This study aimed to evaluate and increase the effectiveness of microteaching and determine the contribution of microteaching to trainees through their reflections on their experiences from their own perspectives.

### Trainees' positive and negative experiences concerning microteaching

The findings showed that trainees reported having some negative experiences in their microteaching practices. They had to teach their classmates who know as much as themselves so that they perceived microteaching as an artificial environment. They found it difficult to watch themselves and take the criticisms. In literature too, artificial environment is pointed out by researchers as one of the most disadvantages of microteaching since teaching trainees' classmates rather than real students disrupts the essence of the microteaching practice (Külahçı, 1994; Çakır, 2000; Bakır, 2014; Bilen, 2015). Bakır (2014) found that during microteaching, a tension occurred because it was an artificial environment, there was limited time, having a video recording the session, excessive stress during the first lesson presentation, the fact that it was boring to teach the same topic for the second time, tension caused by peer critiques, and

pupils' roles were exaggerated. Atav et al. (2014) pointed out that some trainees were stressed due to being recorded. Duban and Kurtdede Fidan (2015) also revealed that the classmates' attitudes and lack of empathy caused some problems for trainees.

All trainees noted that they had mainly positive experiences in their microteaching practices. They regarded it as a 'difficult but useful experience' since it allowed them to gain some experience and to feel like a teacher, helped them to realise their own weaknesses, and gave the opportunity to observe their unconscious behaviours. It was also perceived as useful to be prepared for the classroom management since microteaching helped them to learn how to manage the time. Similarly, in Görgen's (2003) study, microteaching practice was affective in decreasing trainees' worries in terms of 'not to make a mistake, not to know how to correct the mistakes, failure to provide fluency, inability in classroom management, tone of voice, the inability to adjust the speaking rate, teaching in front of the classroom, inability to take the students' attention and the general interest on the topic, to forget what to say, not knowing which teaching method to use, inability to control their emotions, not knowing how to conclude the lesson. In Hacısalihoğlu Karadeniz's (2014) study, mathematics trainees were worried about preparing for microteaching and for that, their teaching would be watched by their classmates and the course instructor. But at the end of their performance, they reported increased self-confidence. Trainees observed their own weaknesses, they tried to overcome their weaknesses in line with the suggestions of the course instructor, and finally, they felt better in the teaching of mathematical concepts.

In this study, trainees reported that they felt a mixture of feelings when they watched themselves in videos: including "nice, feeling which makes me happy, makes me proud, like comedy". For some trainees, watching their recordings were "amazing-weird and frightening". Kazu (1996) pointed out that being criticised and watching the recordings may not be useful for everyone in the same degree. Some of trainees may regard this experience as frightening, threatening and frustrating. On the other hand, Bakır (2014) found that for trainees, it was boring to watch the videos. However, in this study, none of the trainees mentioned this kind of experience. Rather, they reported that they found it very useful to watch their videos to identify their weaknesses. Accordingly, in Wakwinji's (2011) in Canbazoğlu Bilici and Yamak (2014) study, one of the most crucial impacts of microteaching mentioned by trainees was that microteaching gives the opportunity to watch their own performance.

The evaluation stage was found to be the most useful stage by the majority of trainees. It allowed them to start to reflect on their own experiences. Correspondingly, feedback was considered as one of the most important

factors of microteaching by Allen and Ryan (1969) in Arsal (2015). As Arsal (2015) points out, in his study, trainees shared their knowledge, ideas and experiences with each other by means of discussion activities in microteaching. At the evaluation stage of microteaching, in a positive classroom climate, cooperation and the sharing of ideas on teaching performance among the trainees might be the factors that contributed to the increase in their critical thinking dispositions.

## Trainees' perceptions concerning the critiques

Trainees showed different emotional reactions in accepting the criticisms. It was properly indicated by a trainee that learning to accept the criticisms is a process which also requires a cognitive conflict. Despite their initial emotional reactions, trainees eventually seemed to learn to accept the criticisms. It was also difficult to accept the criticisms due to the kind of criticisms made by the course instructors, since one concentrated on PCK and the other on SMK. Therefore, trainees felt themselves in a dilemma. Actually, the dilemma pointed out by them seemed to be based on their concerns. Fuller (1969) indicates that the transformation of SMK into PCK is not the concern of trainees. Even though, strong SMK is crucial for trainees, concentrating on both their SMK and PCK seems to be difficult for them. Consequently, some trainees pointed out that criticisms made on their SMK led them to focus on SMK. Then, they felt that they had to answer all the questions asked during the lesson, and this led to some deviations from their lesson plans. Therefore, some trainees prepared for their second lesson plans in line with the questions asked in their previous teaching. So that they felt that they were restricted. In contrast to these views, a trainee indicated that in her first microteaching practice, she felt that she was in the middle of "a devil's triangle". However, in the second microteaching practice, she felt very comfortable due to the fact that the criticisms provided her the knowledge of her strengths and weaknesses. On the other hand, Hacısalihoğlu Karadeniz (2014) found that trainees watched their own video recordings, identified and tried to overcome their own weaknesses, benefited from the critiques of their friends and the course instructor; therefore their second microteaching practice was more successful than the previous one.

In this study, it was revealed that negative but objective criticisms were found to be useful to see the reality. For trainees, taking the criticisms meant that the class took them into consideration. They had rehearsals at their home and some trainees also prepared for the criticisms beforehand. Similar to this finding, Hacısalihoğlu Karadeniz (2014) reported that in her study, she carried out microteaching practices in the scope of "Teaching Practice" courses taught in practice schools. In order to overcome the difficulties, prior to their microteaching,

trainees went to their practice school and got some information about the school, the teachers and the pupils. Furthermore, they communicated with their mentors, carried out a preliminary study concerning the topic that they are going to teach, and they made presentations to their friends without video recording.

Moreover, for trainees, the criticisms made by their classmates were found to be useful since the criticisms created friendly and supportive environment. In contrast to this finding, in Canbazoğlu Bilici and Yamak's (2014) study, it was pointed out that one of the reasons of the disadvantages of microteaching was related to interpersonal relationships. Researchers indicated that, some problems occurred between the trainee who is teaching and the classmates who watch and criticise her/his performance. On the other hand, in Erdem's et al. (2012) study, most of the trainees regarded the video recording and critiques as beneficial, while others stated that the video recording and critiques made them to become nervous, and they suggested that microteaching would be more beneficial if it were conducted at the schools where they did their school practice.

## Contributions of microteaching

According to trainees, microteaching contributed to trainees' Pedagogical Content Knowledge, professional awareness and Subject Matter Knowledge. Overall, the most crucial contribution of microteaching might be that it provides trainees with some experience for reflective thinking which enabled them to learn from their own and friends' experiences, and made trainees to be aware of the sources of their own unconscious behaviours.

Concerning Pedagogical Content Knowledge, microteaching allowed trainees both to try and experience different teaching techniques, and to look critically at them. In other studies (Görgen, 2003; Atav et al., 2014), it was reported that microteaching also gave opportunity to gain experience by observing others' teaching. Accordingly, in a study to examine trainees' views concerning the impact of microteaching on teaching skills, Küçükoğlu et al. (2012) found that trainees, who exhibit their teaching skills through microteaching, experienced less difficulty. Deniz (2010) reported that microteaching brought about positive changes within the trainees' views towards teaching skills. Correspondingly, Canbazoğlu Bilici and Yamak's (2014) indicated that microteaching contributed to trainees' knowledge concerning teaching strategies, methods and techniques with the opportunity of self-assessment as well as peer assessments. Whereas, Bakır (2014) revealed that microteaching had positive effects in the following areas: lesson introduction, concluding the lesson, teaching a lesson effectively, classroom management, seeing one's own deficiencies, self-improvement, gaining experience, self-confidence,

planning and effective communication. In Atav's et al. (2014) study, microteaching contributed to trainees' teaching skills, classroom management skills and helped them to develop both verbal and nonverbal communication skills. Bilen (2014) pointed out that trainees enjoyed microteaching through which they gained knowledge concerning teaching skills, whereby their self-confidence and teaching skills increased.

Trainees indicated that microteaching contributed to their professional awareness. For them, self-teacher attitude, teacher confidence, sincerity, the use of correct language and teachers' own styles are important in teaching profession. It was pointed out by a trainee that he started to question and learned that it is important to guide pupils to reach the knowledge rather than simply transmit the information. Furthermore, continuing professional development was perceived as crucial. A trainee also pointed out that due to microteaching, his perspectives towards pupils and the profession have changed. Atav et al. (2014) found that due to microteaching practices, trainees developed positive attitudes towards their profession. Even though microteaching provides trainees some experiences in a supportive environment, it should be taken into account that they still need further experience concerning the profession. For example, despite his positive attitudes towards teaching methods and techniques, a trainee was still in doubt concerning the applicability of the techniques in actual classrooms. Even though they used or experienced various teaching methods and techniques, he still seemed to develop a belief that different techniques would not be used in actual classrooms. The reason for this belief seems to be based on his lack of teaching experience as well as his perceptions of the concepts of learning and teaching.

Trainees also expressed their views that microteaching contributed to their Subject Matter Knowledge since they realised the necessity of strong SMK, and their own weaknesses in their subject area. Whereas Duban and Kurtdede Fidan (2015) indicated that trainees had problems with regard to the course instructor, themselves and their classmates. Problems arising from the course instructor were; no clear instructions of the course instructor, lack of feedback and expectations based on constructivist theory.

## Trainees' concerns during microteaching

All trainees mainly worried about their Subject Matter Knowledge. Concentrating on both their SMK and PCK seemed to be difficult for them. Some of the trainees seemed to have a lack of knowledge about pupils. Even though, some trainees pointed out that their observations during "School Experience Course" helped them in thinking at pupils' levels, they still had some assumptions that the level of the knowledge of pupils would be either higher or lower than the level of pupils that they are going to teach. So that, for trainees, it seemed difficult to show empathy and think like a pupil at the level they were going to teach. Therefore, some trainees found the questions asked by their classmates, as 'irrelevant with the topic' or 'higher than the level of the questions which could be asked by the pupils'. This finding is in line with other researchers (Bakır, 2014; Duban and Kurtdede Fidan, 2015), as they found, during microteaching, pupils' roles were exaggerated due to trainees lack of knowledge about pupils. Some trainees were concerned about time management. Similarly, in Atav's et al. (2014b) study, trainees encountered difficulties in time management and in reviving the interest of the classroom.

In this study, none of the trainees reported to have been worried about failure. Rather, one indicated that she was only concerned about her teaching as she was worried whether her microteaching was going to be widely accepted or not. In contrast to this finding, In Duban and Kurtdede Fidan's (2015) study, the biggest problem expressed by trainees was the tension created due to excitement and concern of failure during microteaching practices.

## Suggestions of trainees regarding microteaching practices

All trainees agreed that microteaching should be implemented to all teacher trainees due to their advantages. Correspondingly, in Fernandez and Robinson's (2006 in Bakır, 2014) study, most trainees stated that this method is worth the time spent and that it was a beneficial learning experience, and that the most notable benefits of this exercise are practical application of theory, cooperation and reflection.

Even though trainees were free to use teaching techniques in the scope of 5E learning method, they suggested that no restrictions should be made in choosing the teaching methods. Trainees also suggested that their SMK should not be evaluated in microteaching; rather their PCK should be evaluated. In accordance with this suggestion, Görgen (2003) points out that in microteaching, the aim is not teaching a subject rather, it is applying a technique. It also aims to improve trainees' research ability and personality. Even though it is an artificial environment in which there is a relatively minimum risk of failure and high possibility of achieved teaching ability, trainees gain professional experience. In addition, by minimizing the fear of making mistakes, microteaching contributes to trainees' self-confidence (Görgen, 2003). Similarly, Kazu (1996) points out, the main aim of microteaching is to create an experimental environment to help trainees to gain teaching skills and

increase experiences when it is difficult to create natural practical environment for them. Therefore, microteaching creates a well controlled laboratory environment and a practical environment prior to trainees teaching in real classroom settings.

In the literature, researchers suggest that microteaching should be used to train more qualified teachers in all pre-service teacher education programs (Kazu, 1996; Hacısalihoğlu Karadeniz, 2014; Atav et al., 2014), especially in the practical lessons of teacher education programs (Taşdelen Karçkay and Sanlı, 2009) and also in-service teacher training (Görgen, 2003; Atav et al., 2014). Microteaching contributes to trainees' teaching skills and attitudes towards the profession, so that more space should be given for microteaching in the teacher training programs (Atav et al., 2014). Since it is so effective in helping trainees to gain teaching skills, microteaching should be conducted not only in the fourth year of university but in the preceding years as well (Bakır, 2014). Trainees must have at least three microteaching practices prior to their teaching practice in order to know about the profession (Çakır and Aksan, 1992).

## Conclusion

From the findings of this study, it could be concluded that there are some limitations but there are various advantages of microteaching. Microteaching had some limitations for trainees because trainees taught in an artificial environment in which time limitations, being recorded and being criticised may prevent their real teaching performance. However, before teaching in an actual classroom environment, microteaching allowed trainees to feel like a teacher and helped them to gain some practical experiences. According to trainees, microteaching contributed to their PCK, professional awareness and SMK. Microteaching allowed them both to try and experience different teaching techniques, and to look critically at them. Trainees started to question and learn about the profession. They realised the necessity of strong SMK, and their own weaknesses in their subject area. Overall, the most crucial contribution of microteaching might be that it provided trainees with some experience for reflective thinking which enabled them to learn from their own and friends' experiences, and made trainees to be aware of the sources of their own unconscious behaviours.

Even though trainees showed different emotional reactions in accepting the criticisms, negative but objective criticisms were found to be useful since they created a friendly and supportive environment and helped trainees to see the reality. During microteaching, all the trainees mainly worried about their SMK; therefore, concentrating on both their SMK and PCK seemed to be difficult for them. Some seemed to have a lack of knowledge about pupils, and some were concerned about time management. None of them reported been worried about failure.

All trainees suggested that microteaching should be implemented to all teacher trainees due to their advantages. They suggested that no restrictions should be made in choosing the teaching methods and their SMK should not be evaluated in microteaching; rather their PCK should be evaluated.

Ultimately, this study reemphasized that against all the odds of microteaching, it is worth to use microteaching practices to integrate theory and practice and train qualified teachers. Instead of just concentrating on the visible limitations, it would be better to concentrate on the advantages.

## Suggestions

The suggestions of this study are;

1. Microteaching requires some technological and laboratory sources. Therefore, in teacher education institutions, some technologically supported classrooms must be built up to support teacher educators who are willing to implement microteaching.
2. In microteaching, teaching in an artificial environment, time limitations, being recorded and being criticized increase the tension of trainees. Keeping this limitation of microteaching in mind, teacher educators who would like to implement microteaching should provide a supportive environment with the focus of ensuring positive experiences of teaching, trainees' knowledge base development and self-confidence, rather than threatening them with the risk of failure.
3. In order to reduce the tension of trainees, only one aspects of trainees' knowledge base should be evaluated in microteaching.
4. In microteaching, constructive criticisms are crucial for trainees' knowledge base development. Therefore, constructive criticisms should be taught and given to trainees.
5. Finally, but much more crucial, despite all limitations, there is a need for teacher educators to be more willing to benefit from microteaching for the quality of teachers and for the quality of teacher training institutions.

## Conflict of Interests

The author has not declared any conflict of interests.

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**Interview questions**

1. How was the microteaching practice?
2. How did you feel when you first watched yourself?
3. How was the preparation, especially in terms of emotional experience?
4. Was it difficult to pretend to be and think like a pupil? Especially, thinking like a pupil while watching your classmates' performance and asking questions that a pupil can ask? How does it feel to ask questions thinking like a pupil?
5. Which part of the microteaching was the most useful?
6. What do you think about the criticisms made by the course instructor? Do you find them constructive or offending?
7. What do you think about the criticisms made by your classmates?
8. Do you think this course affected you in terms of teaching methodology?
9. Do you think that this course affected you you in terms of professional awareness?
10. Do you think that this course affected you in terms of subject matter knowledge?
11. From the beginning of the course, have you ever had any concern for grade?
12. Do you have any recommendation concerning microteaching practice?