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A Study on the Effectiveness of Peer Microteaching in a Teacher Education Program

Akran-Mikro Öğretimin Öğretmen Yetiştirme Programındaki Etkisinin Araştırılması

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Öz

Bu çalışma, 2005-2006 ve 2006-2007 öğretim yıllarında son sınıfta okuyan toplam 39 öğretmen adayı ile gerçekleştirilmiş nitel bir çalışmadır. Çalışmada, öğretmen adaylarının mikro öğretim yönteminin uygulamadaki etkililiği yönünde görüş ve önerilerinin tespit edilmesi yüz yüze görüşmeler yardımıyla araştırılmıştır. Öğretmen adayları mikro öğretim uygulamalarında, kendilerine olan güvenin arttığını, kendilerini görme imkânı bulduklarını, deneyim kazandıklarını ve ilk ders anlatma heyecanlarının yapılan uygulamalarla azaldığını belirtmişlerdir.

Anahtar Sözcükler: Mikro öğretim, öğretmen adayları, öğretmen eğitimi

Abstract

This is a qualitative study conducted with 39 prospective teachers during the 2005-2006 and 2006-2007 academic years. The views and suggestions of the prospective teachers on the effectiveness of peer microteaching method were collected through face-to-face interviews. Prospective teachers stated that during the peer microteaching practices, their self-confidence improved, they found the chance to observe themselves while gaining experience. Finally, the participants concluded that practice helped reduce level of the first-time teaching anxiety.

Key Words: Microteaching, prospective teacher, teacher education

Introduction

The teacher education programs offered at universities are usually quite theoretical and abstract (Lewin, Heublein, Ostertag & Sommer, 1998; Seferoğlu, 2006). Even those prospective teachers who have strong methodological and field knowledge are observed to have difficulties in putting their knowledge into practice. This is because the real classroom environment requires a lot more than what their theoretical knowledge may give to them. A teacher is expected to apply many skills such as classroom management, communication and material utilization, all at the same time. This makes the real classroom environment quite complex. As a

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result of this, many prospective teachers in their first lessons, and many novice teachers in their first years, experience what is called "reality or practice shock" (Stokking, Leenders, De Jong & Van Tartwijk, 2003; Veenman, 1984). Since the absence of practical knowledge is felt in the first years of teaching, new teachers as well as the prospective teachers expect to be offered a more practice-based education in their university education (Ulich, 1996).

Peer Microteaching in Prospective Teacher Education Program

Microteaching was developed in the early- and mid-1960s by Dwight Allen and his colleagues at the Stanford Teacher Education Program (Allen & Ryan, 1969). Microteaching allows prospective teachers to try and improve certain teaching skills (e.g. material utilization in lessons) and behaviors (e.g. using voice, tone, and mimics) in a controlled way in a "laboratory" environment. Zifreund (1983) advocated, instead of students teaching in a real school environment, they should practice teaching skills and behaviors in a more "limited" and "facilitated" environment. The lesson environment, which is rather complex under normal conditions, is simplified in terms of the number of students, duration of teaching and teaching content, and is organized in such a way as to focus on certain behavioral situations that the participant could handle.

Though there are different ways of applying the principles, the teaching steps of microteaching can be listed as follows:

- Preparing a 5-15 minute lesson plan on a certain topic.
- Video-recording of the lesson (if possible).
- Watching the video-recorded lesson.
- Evaluation of the lesson by both the teacher and the audience.
- Preparing the lesson again and re-presentation.
- Re-evaluation.

A number of studies have provided evidence that microteaching is an effective means of improving prospective teachers' teaching skills (Benton-Kupper, 2001; Fernández & Robinson, 2006; Gee, 1992; Higgins & Nicholl, 2003; Ramalingam, 2004). The "classical microteaching experience" created in Stanford has developed over time and its different versions have appeared (Allen & Wang, n.d.; Klinzing & Folden, 1991). In these differing models, some variables such as the number of students, teaching-learning environments, teacher skills and behaviors to be practiced have changed, but in all versions the principle that certain skills should be practiced in a more controlled environment and practiced again after evaluation remains the same. The striking version of microteaching, which is receiving more attention than classical microteaching, is "peer teaching" (Pauline, 1993; Klinzing, 2002). In this approach, real students in small groups are replaced with peers pretending to be students. As well as classical microteaching, peer teaching is very effective in developing prospective teachers' skills (Klinzing, 2002; Zifreund, 1983).

Although 30 years have passed since the first microteaching practice, it can still be found in teacher education programs (Borg, Kallenbach, Morris & Friebel, 1969; Fernández & Robinson, 2006; Kpanja, 2001; Wilson & I'Anson, 2006). Havers & Toepell (2002) explained the reason for this by stating that microteaching was not fully integrated into the teaching programs for some considerable time. Microteaching was usually applied as an additional application or an elective course. Failures and problems in the traditional teacher education programs have also caused microteaching to be considered again (Havers & Toepell, 2002; Allen & Wang, n.d.).

Aim of the Research

The aim of the present research was to determine the views and suggestions of prospective teachers on the effectiveness of peer/microteaching in practice.

Method

Participants

The study was conducted at the Hacettepe University, located in Ankara, which is one of the largest universities of Turkey. The participants in the study consisted of prospective teachers who were in their final years in the Department of Secondary Science and Mathematics Education during the 2005-2006 and 2006-2007 academic years. Out of the 39 prospective teachers, 64.3 % were female, and 35.7 % were male. Participants ranged from 21 to 23 years of age. The participant prospective teachers had not experienced any microteaching applications in the courses they received before this study.

The Recently-Developed Peer Microteaching Model

The studies were made during the last methodology course they received. Participants were briefly informed about peer microteaching before the study started. The application proceeded as the following paragraphs summarize:

Peer Teaching I

Prospective teachers were asked to do a 15-minute microteaching on a topic of their choice using the methods and skills they learnt and acquired. They were given no instruction regarding the task. Prospective teachers, following the peer teaching session, submitted written reflections on their own teaching.

Peer Evaluation I

After all prospective teachers had taught their lessons, the video-recorded sessions were evaluated altogether in the classroom environment. First, the prospective teacher who taught the lesson evaluated him/ herself and then his/ her peers did an evaluation. Second, the instructor evaluated the prospective teacher's lesson. After that, the "Course Evaluation Form" designed for this study was filled in by the instructor, prospective teacher and peers. This evaluation process was repeated for each prospective teacher who taught. Students were also shown examples from other countries via the Internet. These lessons were evaluated under the supervision of the instructor.

Peer Teaching II

Participants reorganized and taught the same topic they taught in Peer Evaluation I in 15 minutes in the light of the criticisms and suggestions they received. At this stage, the microteaching applications were also video-recorded.

Peer Evaluation II

The microteaching sessions were evaluated as in the second stage.

Microteaching and Its Evaluation (student teaching experience in school)

At this stage of the study, prospective teachers did at least two microteaching practices at schools in real classroom environments, which were again video-recorded. At the end of this

application, the recorded lesson was evaluated by the prospective teacher him/herself, three peers, the instructor and the supervising teacher in the school using the "Course Evaluation Form". Prospective teachers then submitted written evaluations on how their teaching skills had changed.

Peer Teaching III

At the last stage of the study, for 15 minutes, the prospective teachers taught the topics they taught at the first and second peer teaching stages once again for the last time after reorganizing them.

Peer Evaluation III

At the end of the lesson, as in the other evaluation stages, the "Course Evaluation Form" was filled in individually. This was followed by the self-evaluation of the prospective teacher and the evaluations of the peers and the instructor.

Research method

This is a qualitative study on the views and suggestions of the participating prospective teachers. Semi-structured interviews took place with 39 prospective teachers during eight-month peer microteaching applications. The semi-structured interviews enabled establishing an informal style and wide-ranging exploration of ideas (Patton, 1987). The participants were asked for their permission for the interviews to be recorded on video and were reminded that they could terminate the interview whenever they wished. The half-hour interviews were saved digitally.

Data analysis

The data of the study were collected through face-to-face interviews conducted right after the peer-microteaching applications. The video-recorded interviews were transcribed verbatim and the data were examined line by line to identify units of information. Procedures for investigating the data consisted of ongoing content analyses used to identify and organize themes within the interview text (Glesne & Peshkin, 1999). Each question was read many times after being turned into the written format and the researcher developed certain codes according to the implied or directly explicit data (Strauss & Corbin, 1990). A code list was prepared accordingly and this list formed a conceptual structure for all the data to be processed. When needed, the codes were changed or developed during the data analysis process. The collected data were later categorized with the help of the given codes. The data were re-analyzed according to the categories obtained.

In order to increase the validity and reliability of the study, two researchers were involved in the study during the preparation of the interview questions, data collection, data analyses and conclusion-drawing. In preparation of the interview questions, the results of earlier studies and the collected feedback during the current study were used. Additionally, for the interview results, five participants of the study were contacted again in order to test whether the results were accurate or not. The interview results of the two different years were observed to display an inner coherence.

Results

At this stage the prospective teachers were asked about the effectiveness of the application.

The effects of video recording on the prospective teachers

One of the most important factors affecting a prospective teacher's performance in the classroom is the video-recording of the lesson taught. Most of the participants mentioned that at

the beginning, especially in the first 5 to 10 minutes, the presence of the camera affected them, but they got used to it and they even forgot about it in the final applications (Figure 1). A prospective teacher expressed this as "The presence of the camera disturbed me in my first peer microteaching, I don't know why, in fact I am used to cameras, but still at first peer microteaching it disturbed me but in the following lessons I can even say that I did not feel the presence of it at all". Of all the participants, 25% were not affected by the video-recorder at all. A small group of participants, 3.1%, were affected by the camera during the whole application.

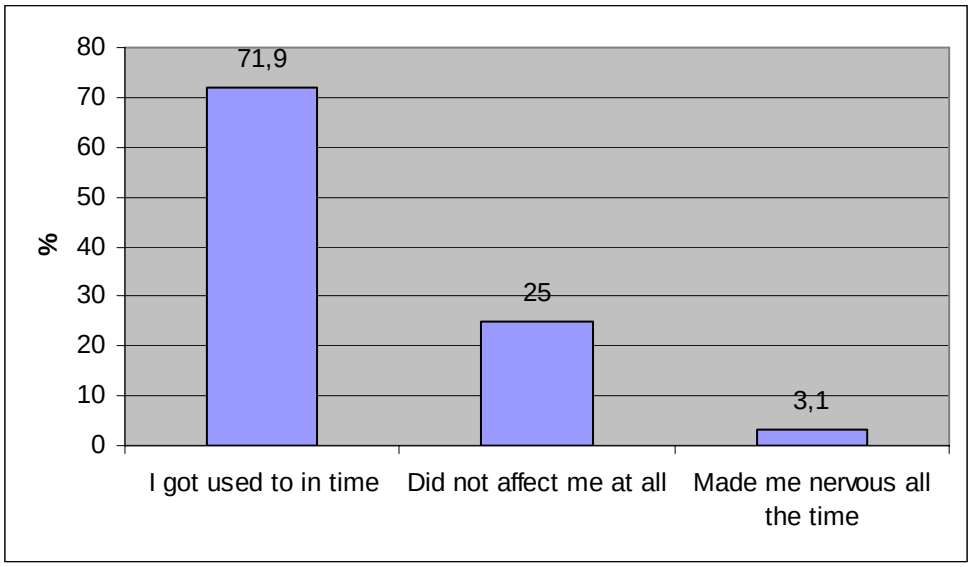

Figure 1: The Effects of Video Recording on the Prospective Teachers

When prospective teachers were asked whether they found video-recording in peer microteaching necessary, most of the participants, 97.3%, responded positively. This necessity stemmed especially from the chance to observe themselves with the help of the recordings. This argument was supported by a participant as "Camera has an advantage; not only the observers but also I can see myself later on. One can understand his/her mistakes better by watching him/herself". Another participant said, "The best thing is, I can watch my own teaching. I was surprised when I watched first, because I thought I taught better; I thought I used my voice and tone and mimicry better but I was disappointed when I watched it. But then, the 2nd and 3rd peer microteaching sessions were very beneficial. I tried to improve myself in the topics that I failed and so, since I could watch myself, I think it was a great activity". Moreover, participants stated that the evaluation could be made more objectively with the help of the camera. As a participant told us, "If there weren't a camera, you could have evaluated me, so could my friends, I could evaluate myself at that moment, but none of those would be objective, because when we watch it for the first time we say "oh, that was wonderful" but the next week we notice a lot of things in the video-recordings that were actually mistakes at that moment, made without noticing. That is why, I think, videos were a lot more effective in evaluation". Only one of the prospective teachers criticized the evaluation made with the help of the video-recording. According to him/her, it was "difficult to see everything at once on the video".

The Favorite Points of Peer-Microteaching Applications

Figure 2 summarizes the favorite points indicated by participants about the applications. The favorite point about the applications according to the prospective teachers was that they gained self-confidence (41.3%). It was observed that confidence, which is the most common reason for anxiety in prospective teachers, improved together with the applications. A

prospective teacher expressed this as: "Certainly, my self-confidence improved. I was already talking [about this] to my friends. How will I become a teacher? How will I teach? How will I communicate with my students? I was disturbed by these questions. I was always thinking if I would be able to tell the topics or if I would make mistakes. I was always talking [about this] with my family and friends. But absolutely, my self-confidence improved a hundred per cent".

Moreover, another favored point was the opportunity for the participants to observe themselves in peer microteaching practices. "Observing ourselves is my favorite thing. By watching ourselves, we found the chance to see our correct behaviors, failures, good and bad aspects", is how a participant expressed him/herself. These categories were followed by gaining experience (17.5%) and overcoming anxiety (11.2%).

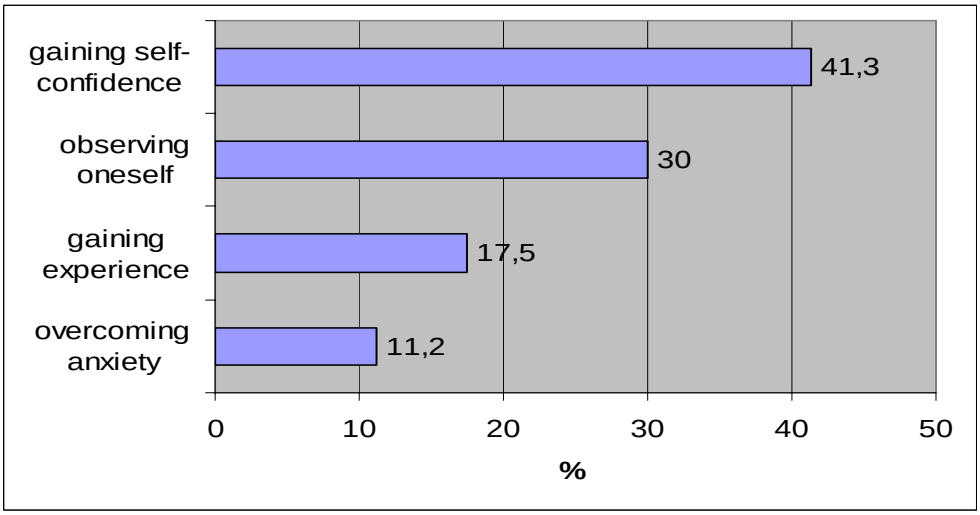

Figure 2: Participants' Favorite Points of the Applications

The Most Criticized Points in Peer Microteaching Applications

The most common criticism at 48.4% was that the classroom environment in peer microteaching practices did not reflect the real classroom environment (Figure 3). It was explained that this was because the peers could not play the role of students and the applications were made in classrooms of the participants. "What I disliked in the applications was that we play the role of a teacher in the group environment created but the students, I mean, our friends, do not play the role of the students. I mean, when we said, "did you understand?" they all said they did. They weren't asking questions. Maybe they were not asking in order not to put their friends in difficult positions". Apart from that, they mentioned that the 15-minute period in the practice was too short (16.1%) and it should have been at least 20 minutes. Other than that, what challenged the participants most were the choice of topics (12.9%) and the effect of the video-camera (12.9%). Some participants said it was hard to choose the topics and so the topics should have been given by the instructor. They also criticized the topics' remaining the same for all applications. The problem about the video- camera was that a camera could not reflect everything at once. Some participants complained about the presence of the video-camera.

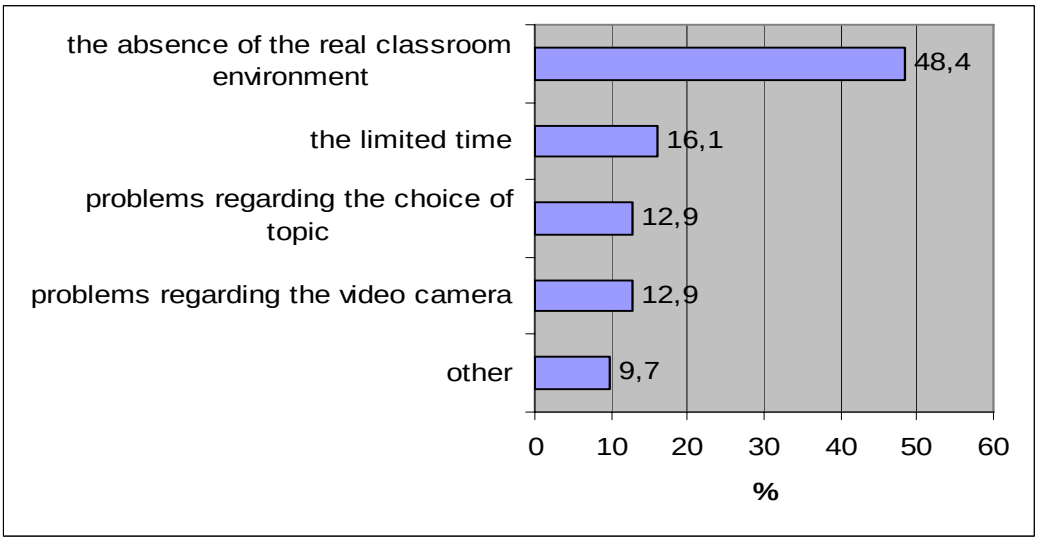

Figure 3: The Most Criticized Topics in Peer Microteaching Applications.

Discussion and Conclusion

The most valued points in peer microteaching practices were the improvement of pre-teachers' self-confidence, finding the chance to observe themselves, gaining experience and overcoming their first-time teaching anxieties. The teachers who had started their profession said that the practices had permanent effects on the gaining of self-confidence, overcoming first-time teaching anxiety, communicating, developing methodological skills, classroom management and material utilization. These qualifications, which are thought to have been attained during the practices before graduation, remain permanent although their order of priority may change. Therefore, both prospective teachers suggested the continuation of these practices. Peer microteaching practices served as a catalyst for some participants during the transition from theory to practice.

Microteaching practice, which first appeared in the late 1960s, has developed and continued its contribution to teacher education. The Stanford model mentioned at the beginning was enriched by the growth of various versions in terms of choice of teaching skills and practice groups. The rapid development of technology has contributed to this change as well. Given the financial cost of audio-visual recording in 60s, and considering the time spent on it, the development today can be understood better. Today, video-recording can be done with hand-sized cameras weighing just 200-300 grams (or even with cell phone cameras). Watching these recordings again has also become a lot easier. That is how repeated applications could be done. As the literature suggests, the most criticized issue has been that many peer microteaching practices are limited to a single application (MacLeod, 1987). Owing to technological developments, peer microteaching practices can now be revised, updated and investigated in terms of their effectiveness

All application stages remained the same apart from the above-mentioned in this model. The aim in the microteaching practices was not only to determine how much the prospective teacher comprehended the course content or whether s/he could transfer that correctly during the lesson. Microteaching aims to experience how (methods, activities to be used, etc) the content should be taught (Moede, 2002). In this model, the topics were kept the same for that purpose and the prospective teachers were expected to concentrate on the teaching skills

instead of the content. Parallel to this, the improvement in skills could be observed throughout application. A prospective teacher expressed his/her opinion as follows: "There had to be some permanent things in the lessons taught so that we could talk about those performances. Therefore, keeping the topics the same, performances' [being] on the same topic, displaying a performance [teaching] the same topic is important to me, because some things should remain the same".

In some peer microteaching studies in the literature, before the first practice, prospective teachers watched some sample videos or they were informed about the expected skills beforehand. In this model, however, an explanation was not given to the prospective teachers on the things they should pay attention to. Participants were enabled to observe and think about the teaching skills they managed to (or failed to) apply in a good teaching experience. Prospective teachers were observed to fail to apply the methodological and theoretical methods they learnt during their student years and stick to a traditional teacher-centered learning-teaching environment. This was remarked by both the participants and the peers during the observations. This first peer teaching experience brought forward the current conditions of the participants and enabled them to think about their skills. Later on, in the light of the evaluations made and the course evaluation form, the other peer teaching practices were done. The developments in the teaching skills were apparent both in the observations and in the course evaluation form scores (Şen, 2007). These two peer teaching practices formed a "basis" for the microteaching to be done in the real school environment. The participants found the opportunity to experience their first-time teaching in a controlled environment. Additionally, microteaching practices in a real classroom environment in different countries were watched and evaluated. Then the prospective teachers, using all these acquisitions, taught real students in the school practice. In the last stage of the study, peer teaching was done for the last time at the university and the gaps in the microteaching were addressed as much as possible. This final application was defined by some participants as the "final point".

On of the most important problems that the prospective teachers faced during peer microteaching was the challenges they experienced while choosing their topics (Orlich,, Harder, Callahan & Gibson, 1980). Prospective teachers have to be informed about choosing the most suitable topic in a certain time to teach the lesson using appropriate methods. Otherwise, some prospective teachers tend to teach as many topics as possible within that period.

The peer teaching at the university was criticized most in terms of the "artificiality of the environment". The participants usually complained about their peers not being able to pretend to be students. Therefore, at the last practice stage of the developed model, volunteer students from lower grades were invited to the classroom. This provided an environment where there were students who were not competent at the topics being taught. With students they did not know, participants felt the environment was the closest to the real classroom, as they could be asked any question or be criticized at any time. Additionally, peers were given some roles during or before teaching. Some peers asked questions related to the topic, although they knew the answers.

During the interviews with the participants, a single camera was found to be inadequate for some situations. There were suggestions that there should be recording from different perspectives. There were such utilizations in the last practices of the model but the mixing of these different recordings and deciding where and which recording should be placed puts a great strain on the whole study. Instead, portable small cameras were used and moved around the classroom in such a way as not to disturb the lesson. In some evaluations, two different recordings recorded from two different perspectives were reflected at the same time and therefore evaluations from different perspectives could be obtained without mixing. In all types

of recording, the camera was kept out of sight as much as possible. Since people today are more acquainted with technology, the negative camera effect is said to have decreased accordingly.

In peer teaching practices at the universities, in some situations, the physical condition of the classroom might differ from that of the schools. A prospective teacher should have an environment where s/he can walk around and do his/her classroom activities. Therefore, in peer teaching practices, the environment should be arranged before the application in such a way as to become as close to the real classroom environment as possible.

One of the most important acquisitions that a prospective teacher would gain is the opportunity to evaluate him/herself in a controlled environment. This evaluation process is unlikely to be experienced again in another course or during professional life. The participant prospective teachers saw this as an advantage and thought themselves lucky compared with those who could not experience microteaching. The participants stated that these practices were very different from the other types of presentations done in other courses, and that it was a different experience to teach the field (physics) topics within peer microteaching practices. They stated that they gained the experience of real teaching: "I believe that peer microteaching is absolutely necessary. I believe that it has contributed to me a lot. I mean, we also take education [formation] courses, too. Let's use the question-answer method, let's make the students learn by themselves. We know all these theoretically, but applying them is something different. Microteaching enabled that. I mean, the other presentations we had made were the ones we did during the lessons [we took]. This is something very different. Teaching physics, teaching something of your own field, is something totally different. I mean, teaching physics to someone who knows physics. Therefore, I can say that it is a method that should exist".

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