



THE EFFECT OF MICRO-TEACHING TECHNIQUE ON TURKISH TEACHER CANDIDATES' PERCEPTIONS OF EFFICACY IN LESSON PLANNING, IMPLEMENTATION, AND EVALUATION

MİKRO ÖĞRETİM TEKNİĞİNİN TÜRKÇE ÖĞRETMENİ ADAYLARININ ÖĞRETİMİ
PLANLAMA, UYGULAMA VE DEĞERLENDİRME YETERLİLİK ALGILARINA
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Abstract

Technological developments affect all areas of human life. These effects also reflect on educational settings which are re-arranged to adapt to the age via technology. The aim of this study is to investigate the effect of micro teaching used in teacher training on Turkish language teacher candidates' perceptions of efficacy in lesson planning, implementation, and evaluation. The purpose of this technique is to identify and improve teacher candidates' weaknesses. Teacher candidates in their 3rd year at a Turkish Language Teaching Department formed the sample of the study. A pre-test-post-test experimental design with a control group model was used in the study. Multivariate ANOVA model which is used to analyze the data collected by split-plot designs was also used in this study. The data was analyzed using SPSS version 15. According to the results, the perception of efficacy in lesson evaluation in the experimental group was significantly higher than that of the control group.

Key Words: micro teaching, Turkish Teacher candidates, lesson planning, implementation, and evaluation.

Öz

Teknolojik gelişmeler insanoğlunun yaşamındaki tüm alanlarda etkisini gösterir. Bu etkiler eğitim ortamlarına da yansır. Bu çalışmanın amacı, eğitim ortamlarının önemli bir parçası olan öğretmenlerin yetiştirilmesinde kullanılan mikroöğretim tekniğinin, öğretmen adaylarının öğretimi planlama, uygulama ve değerlendirme yeterliklerine yönelik algılarına saptamaktır. Bu öğretim tekniğinin amacı öğretmen adaylarının zayıf yanlarını ortaya çıkarmak, düzeltmek ve öğretmenlik becerilerini düzeltmektir. Çalışmanın örneklemini Türkçe Öğretmenliği Bölümünde öğrenim gören üçüncü sınıf öğretmen adayları oluşturmaktadır. Araştırmada ön test-son test kontrol gruplu deneysel model kullanılmıştır. Araştırmanın desenini iki faktörlü (split-plot) desenlerde toplanan verilerin analizinde sıklıkla kullanılan çok faktörlü ANOVA modeli oluşturmaktadır. Verilerin SPSS 15 paket programında analizi yapılmıştır. Araştırma sonunda Türkçe öğretmen adaylarının mesleki özyeterlilik algıları deney grubu lehine anlamlı çıkmıştır.

Anahtar Kelimeler: mikro öğretim, Türkçe öğretmen adayları, öğretimi planlama, uygulama ve değerlendirme.

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1. INTRODUCTION

Technological advances affect human life in many areas. These effects are seen in educational settings reorganizing the use technology to stay up-to-date. Developmental level of modern societies is usually measured with science and technology they produce. One of the most important means for this development is education. Rapid developments in communication and technology in recent years and their common use are closely associated with the creative producers and consumers trained with the advanced educational systems. As in many other areas, innovations in integration technologies affect education. Educational settings have been changing with these technologies. Tools and equipment used in education is inevitably empowered with the innovations in technology and meet the needs of the era. In this developmental context, it has been a current issue that there is a need to integrate, technology with education. The education without the use of technology cannot cover the needs and expectations of the society and individuals, in recent years. Transforming the technology used in education with advanced modern technology has been one of the priority issues (Karasar, 2004). Today, educational programs are being reconstructed, traditional approaches and methods being questioned and replaced with teaching based on inquiry and group work. To benefit from the latest developments in education, flexible programs sensitive to various systems, methods and principles have been implemented and technological products have been adapted to educational settings (Şentürk, 2008).

Educational technology does not only mean using technological tools and equipment in teaching. It also provides a wide range of applications for teachers with its *Instructional Design* consist of various knowledge, skills and activities related to lesson planning, organizing, implementing, evaluating and reorganizing (Deryakulu, 2011).

Teaching and learning will not occur without communication. For this reason, teachers participate in the communication process with students in their daily interaction. They constantly send and receive messages to and from their students (Moore: 2006, 110). One of the important roles of teacher training programs is to train teachers with an appropriate teaching experience in the pre-service period (Lee and Wu, 2006). Accordingly, the methodological courses in the education faculties give the subject area training in theory and practice. It is through this course that teacher candidates' pre-service experience is aimed to be enhanced. In the course, by reviewing candidates' applications in the subject area and

teaching, they are trained to be ready for the teaching profession. The activities carried out enable them to focus on planning, implementing and evaluating in their instruction.

1.1. Planning, Implementing and Evaluating Teaching in the Pre-Service Period

Teaching practices in the pre-service period equip teacher candidates the necessary knowledge and experience need to have before they start the profession. In the implementation of lesson activities, teacher candidates' instruction, questioning and presentations are observed and evaluated by their peers and trainers (Farris, 1991). Then, through the teaching practicum, candidates are asked to observe a school and carry out the teaching in the lessons. In the pre-service period, teacher candidates are also trained to better understand their characteristics and be aware of their weak skills. Consequently, improving student teachers' planning, implementation and evaluation skills emerge as a necessity.

Planning and implementing teaching activities are quite complex processes. The increasing interest in design of these processes is organized with a technique based on analyzing functional relationships between the elements of the process or the organizational and operational problems of the teaching activity (Alkan& Kurt, 2007). In addition, the evaluation gives trainers and students some feedback on to what extent the process works.

Orlich et al. (1990:140) describes lesson planning in three phases which are pre-lesson preparation, lesson planning and implementation, and post-lesson activities. Accordingly, candidates in the teacher training programs are expected to acquire these phases by the help of the theoretical knowledge and applications.

Preparing and implementing teaching activities are connected with a powerful decision making mechanism and the ability to use instructional techniques, methods, and strategies. Successful activity planning depends on the quality of the examination of goals, instructional situations for the goals and whether or not these goals are achieved. Appropriate choice of target behaviors, implementing activities effectively with rich stimulants and evaluating the results are three prerequisites for carrying out instructional activities. While planning these activities, at a macro level, educational curriculums are planned on a year basis and units in each course are organized, and at a micro level, lesson sessions are planned (Erginer, 2000: 4). In this process, participation of teacher candidates in decision making related to teaching is particularly of great importance (Taşkın, 2006).

Teacher candidates' awareness of their efficacy in an educational setting is to salient in terms of being ready for the profession. At this point, in the teaching design, there is a need for teachers know who, what, and how to teach, and how to evaluate its (İşman, 2011). Self-efficacy is an important concept in Bandura's social learning theory. According to Bandura, self-efficacy is the beliefs of one's capabilities to organize and achieve a task which he is required to do. Self-efficacy affect individuals' goal setting, how much effort they put to reach their goals, how long they will persist despite difficulties they encounter, and in case of failure, their reactions to this failure. Individuals live as well as the educational institutions have an effect on the development in a society of self-efficacy. Above all, teachers are important factors affecting self-efficacy in school settings. For this reason, teachers' creating an effective and successful learning environment depends on their perceptions of self-efficacy (Akkoyunlu et al., 2002).

1.2. Micro-Teaching Applications in the Pre-Service Period

The use of videos in teacher training courses is currently an important issue. Many trainers use video-based resources to provide teachers with a certain level of experience in their professional development. Using videos for training teachers is one of the topics frequently mentioned by professionals in the field (Le Fevre, 2003). Micro-teaching technique using video was developed in 1960's at Standford University and has been successfully used to improve teaching skills (Demirel, 2002). Micro-teaching, brought forth by Allen et al., aims at providing teacher candidates with a teaching application before starting to work at real schools (Perlberg, 1976). For this, video records are kept in the application process. Videocassettes serve as a supportive tool for self-assessment and reflection and are a significant part of teaching portfolios (Lee and Wu, 2006).

Micro-teaching as an approach measuring behaviors (Sherin, 2003) is a technique used to evaluate the pre-service candidates' developmental stages in the professions of teaching, engineering and consulting. Based on this technique, lessons are carried out in 10-15 minutes periods with a narrow scope. Micro-teaching is implemented under the supervision of an observer watching teacher candidate's performance. The observer does not interrupt, but takes notes about the mistakes to evaluate the lesson at the end. Furthermore, candidates are given the opportunity to evaluate themselves from a critical point of view. The aim of this teaching technique is to identify teacher candidates' weaknesses and improve their teaching skills

(Kpanja: 2001) therefore, the process functions based on problem solving (Klingstedt et al, 1981).

Every teaching activity is followed by unstructured criticisms of the candidates' supervisor and peers. In the classes, each lesson requires to be taught and criticized twice (Verble, 1981). Micro-teaching is usually described as a test and error situation named the 'teach-reteach cycle' (Demirel, 2002). The steps of this process can be specified as follows (Demirel, 2000; Can, 2009):

1. Micro lesson is prepared according to the requirements of the task
2. Micro lesson is taught
3. Oral, written, or tape feedback is received on to what extent the teaching activity is successful.
4. Micro lesson is reorganized in the light of the feedback received.
5. Micro lesson is retaught.
6. Oral, written, or tape feedback is received on whether or not improvements are achieved.

In brief, micro-teaching offers opportunities for teacher candidates in a laboratory setting to practice and improve some teaching skills (e.g. using materials in lessons) and behaviors (e.g. using voice, intonation and gestures) in a controlled way (Şen, 2009:166).

Videocassettes provide the course with what other tools are not able to prepare in the organization of teaching. First of all, they supply immediate feedback through audio-visual tools without the need of another operation. Thus, mistakes made can be corrected instantly. Second, using videocassettes in teacher training also have advantages in terms of being economical and practical. The most important of all, the actual application process can be reviewed through video equipment (Albert & Hipp, 1976).

2. The Aim of The Study

The aim of the study is to identify the effect of micro-teaching technique used in teacher training which is an important part of educational settings on teacher candidate perceptions of efficacy in lesson plan, implementation and evaluation. Accordingly, the research question of the study is "Does the use of micro-teaching technique in the training of Turkish language teacher candidates have an effect on their perceptions of self-efficacy in lesson planning, implementation and evaluation?".

The sub-questions of the study are as follows:

1. Does micro-teaching have an effect on Turkish language teacher candidates' self-efficacy in lesson planning?
2. Does micro-teaching have an effect on Turkish language teacher candidates' self-efficacy in lesson implementation?
3. Does micro-teaching have an effect on Turkish language teacher candidates' self-efficacy in lesson evaluation?

3. Method

This study was carried out at the Turkish Language Teaching Department of Buca Faculty of Education, Dokuz Eylul University. The sample is consisted of the 3rd year students studying at the Turkish Language Teaching Department taking the 'Methodology' course. In the study, experimental method with pre- and post-test, and control group was used. 26 female and 16 male students participated in the experimental group (n=42); 23 female and 18 male students in the control group (n=41). Multivariate ANOVA which is usually preferred for repeated measures in the analysis of data gathered in split-spot designs (Büyüköztürk, 2010) was used in the data analysis.

The procedure lasted sixteen weeks. As the pre-test, 'Perceptions of Efficacy in Lesson Planning, Implementation and Evaluation Inventory' developed by Karaca (2006) was given to the experimental and the control group in the spring term 2011-2012 academic years. The inventory is consisted of 47 items in a 5-point scale. Each item in the inventory has the options of "I'm very able", "I'm able", "I'm neither able nor unable", "I'm unable", "I'm very unable". In the development of the inventory, expert opinion was obtained on content validity, and factor analysis was applied to test construct validity. As a result of the factor analysis, it was identified that the inventory included "lesson planning", "lesson implementation", and "lesson evaluation" factors. The same inventory was also used with Turkish language teacher candidates by Coşkun et al. (2009). In both steps, Cronbach alpha reliability coefficient was found as .96.

After gathering the data in the pre-test, the lessons prepared by the teacher candidates were observed by the researcher and the activities were videotaped. Without interrupting the presentations, approximately 10-15 minute presentations were recorded. In this process, the mistakes made by the presenter were noted by the researcher and other peer teacher candidates. After each presentation, videotapes were reviewed and candidates' weaknesses and mistakes were shown. They were asked to do another presentation on the same subject. In

the control group, mistakes were directly told without videotaping. At the end of the procedure, the data was gathered using the same inventory as a post-test. The data gathered was analyzed using SPSS version 15 considering the sub-questions of the study which are the perceptions of efficacy in (1) planning, (2) implementation and (3) evaluation.

4. Findings

In this section, the participants' pre- and post-test scores from the inventory according to the sub-questions are analyzed.

Table 1: Mean Scores and Standard Deviations of the Turkish Language Teacher Candidates in the Experimental and the Control Group in the Perceptions of Efficacy in Lesson Planning, Implementation and Evaluation Inventory

Grup	Scale	PRE-TEST			POST-TEST		
		N	\bar{X}	S	N	\bar{X}	S
Experimental Group	Planning		39,64	3,71		44,76	4,77
	Implementation	42	75	5,59	42	87,3	7,76
	Evaluation		51,97	5,97		61,78	5,55
Control Group	Planning		39,75	3,77		42,14	3,99
	Implementation	41	75,17	9,85	41	82,73	8,23
	Evaluation		52,21	8,24		56,31	7,28

In Table 1, Turkish Language Teacher Candidates' are participated, in both experimental and control group, pre- and post-test mean scores are given in terms of lesson planning (LP), implementation (LI), and evaluation (LE). There is a significant increase between the mean scores of the experimental group in the pre-test (LP= 39,64; LI= 75; LE= 51,97) and the mean scores of the control group (LP= 39,75; LI= 75,17; LE= 52,21), and between the mean scores of the experimental group in the post-test (LP= 44,76; LI= 87,3; LE= 56,31) and the mean scores of the control group (LP= 42,14; LI= 82,73; LE= 56,31).

Whether the changes in the perceptions of efficacy of the participants exposed to two different applications have a meaningful difference before and after the treatment is shown in Table 2, Table 3, and Table 4.

Table 2: Multivariate ANOVA Results for the Repeated Measures of the Pre- and Post-Test Scores of the Participating Turkish Language Teacher Candidates' Perceptions of Efficacy in Lesson Planning

Source of Variance	KT	Sd	KO	F	P
Interindividual	1687,819	82			
Group	64,955	1	64,955	3,242	.075
Error	1622,864	81	20,035		
Intraindividual	1747,281	83			
Measure (Pre&Post-Test)	584,956	1	584,956	43,666	.000
Group*Measure	77,245	1	77,245	5,766	.019
Error	1085,08	81	13,396		
Total	3435,1	165			

In Table 2, it can be seen that there is no meaningful difference between pre- and post-test scores of the experimental group received micro-teaching application and the control group received applications with no intervention, which is identified as $F(1,81)= 3,242, p>.05$. Besides, the table shows that a meaningful difference between the perceptions of efficacy in lesson planning pre- and post-test mean scores of the participants in the experimental and the control group has been found as $F(1,81)= 43,666, p<.01$.

Another finding from the table is the common impact in the experimental and the control groups. In the procedure including two different teaching applications, it has been found that the experimental and the control groups' perceptions of efficacy in lesson planning shows a meaningful difference before and after the experiment, which is identified as $F(1,81)= 5,766, p<.05$.

The changes in the participants' perceptions of efficacy in lesson implementation exposed to two different applications have a meaningful difference before and after the treatment are shown in Table 3.

Table 3: Multivariate ANOVA Results for the Repeated Measures of the Pre- and Post-Test Scores of the Participating Turkish Language Teacher Candidates' Perceptions of Efficacy in Lesson Implementation

Source of Variance	KT	Sd	KO	F	p
Interindividual	7471,771	82			
Group	201,478	1	201,478	2,245	.138
Error	7270,293	81	89,757		
Intraindividual	7412,283	83			
Measure (Pre&Post-Test)	095,837	1	4095,837	107,627	.000
Group*Measure	233,909	1	233,909	6,146	.015
Error	3082,537	81	38,056		
Total	14884,05	165			

Table 3 shows that no meaningful difference between perceptions of efficacy in lesson implementation pre- and post-test scores of the experimental group received micro-teaching application and the control group received applications with no intervention has been found as $F(1,81)= 2,245, p>.05$. In addition, it can be seen that there is a meaningful difference between perceptions of efficacy in lesson implementation pre- and post-test scores of the participants in the experimental and the control groups, identified as $F(1,81)= 107,627, p<.01$.

Another finding from the table is the common impact in the experimental and the control groups. In the procedure including two different teaching applications, it has been found that the experimental and the control groups' perceptions of efficacy in lesson implementation shows a meaningful difference before and after the experiment, which is identified as $F(1,81)= 6,146, p<.05$.

The changes in the participants' perceptions of efficacy in lesson evaluation exposed to two different applications have a meaningful difference before and after the treatment are shown in Table 4.

Table 4: Multivariate ANOVA Results for the Repeated Measures of the Pre- and Post-Test Scores of the Participating Turkish Language Teacher Candidates' Perceptions of Efficacy in Lesson Evaluation

Source of Variance	KT	Sd	KO	F	p
Interindividual	5972,144	82			
Group	283,237	1	283,237	4,033	.048
Measure	5688,907	81	70,233		
Intraindividual	4219,8	83			
Measure (Pre&Post-Test)	006,306	1	2006,306	86,67	.000
Group* Measure	338,451	1	338,451	14,621	.000
Error	1875,043	81	23,149		
Total	10191,94	165			

Table 4 shows that a meaningful difference between perceptions of efficacy in lesson evaluation in pre- and post-test scores of the experimental group received micro-teaching application and the control group received applications with no intervention has been found as $F(1,81)= 4,033, p<.05$. Besides, it can be seen that there is a meaningful difference between perceptions of efficacy in lesson evaluation in pre- and post-test scores of the participants in the experimental and the control groups, identified as $F(1,81)= 86,67, p<.01$. Another finding evident from the table is the common impact in the experimental and the control groups. In

the procedure including two different teaching applications, it has been found that the experimental and the control groups' perceptions of efficacy in lesson implementation shows a meaningful difference before and after the experiment, which is identified as $F(1,81)=14,621, p<.05$.

Discussion and Conclusions

Micro-teaching is a technique which reduces the difficulties in the real classroom environment, to enable teachers achieves certain tasks and facilitate their evaluation by the help of feedback, and train teacher candidates in a realistic setting (Demirel, 2000: 123). Teachers trained with micro-teaching technique act more willingly than the ones trained with traditional techniques. Therefore, studies indicate that micro-teaching can be a powerful technique in teacher training faculties (Mackey et al., 1977).

Findings of the study show that micro-teaching is effective from many aspects. The significant result of the study is that there is a meaningful increase between both groups' pre- and post-test scores. This can be explained by the positive influence of the methodological courses on teacher candidates' perceptions of efficacy in lesson planning, implementation, and evaluation. The methodology course given in two terms in the Turkish language teaching departments encompasses of two theoretical and two application credits. Knowledge and skills towards speaking, writing, reading, listening, and grammar presented in the theoretical part of the course are incorporated with the application part. In this way, teacher candidates' knowledge and experience is fostered.

The secondary result of the study depicts that at the end of the procedure no meaningful difference emerge between the students participated in the micro-teaching process and the candidates in the control group in terms of their perceptions of efficacy in lesson planning, $F(1,81)= 3,242, p>.05$. Another finding is that there is no meaningful difference between the experimental group and the control group in terms of their perceptions of efficacy in lesson implementation, $F(1,81)= 2,245, p>.05$.

The last finding of the study is that a meaningful difference is seen at the end of the procedure between the students participated in the micro-teaching process and the students in the control group regarding their perceptions of efficacy in lesson planning, $F(1,81)= 4,033, p<.05$. This shows the effect of micro-teaching on evaluation. It can be said that the feedback received from the supervisor and the peers may have had an effect at this point.

No studies regarding the effect of micro-teaching on Turkish language teachers have been found. However, there have been studies in other fields related to micro-teaching.

The literature on the effectiveness of micro-teaching indicates both positive and negative opinions. Linman (1980) emphasizes that this technique enable teachers behave unnaturally, and consequently affect their teaching and thinking negatively. Therefore, the worry and anxiety aroused in the process weaken the effectiveness (Holzman, 1969; Steward & Steward, 1970). Dass (1976) argues that many successful teachers have improved their skills for years without video equipment. Similarly, stress and anxiety which may arise by the use of video can affect the instruction (Fuller & Manning, 1973). In Edward's (1975) experimental study, it is concluded that the teaching carried out with micro-teaching under the supervision of an expert is not effective.

On the other hand, Albert and Hipp (1976) say that this kind of applications reduce the level of anxiety in teacher candidates. In the same way, Joshi (1974) argues that micro-teaching using videotapes foster the development of basic teaching skills. In his experimental study, Zein (1976), in cooperation with some other researches, finds that micro-teaching incorporating video equipment is superior to traditional teaching methods. Kpanja (2001), in his experimental study at the Curriculum and Educational Technology Department, observes that the class with which he carried out micro-teaching applications trusted him more and perceived the micro-teaching lessons in a more positive way.

In their study on the English language teacher candidates, Clifford et al. (1977) conclude that as a result of micro-teaching based on peer-evaluation, this technique was seen quite beneficial. Similarly, it is found that micro-teaching is effective in terms of teacher candidates' organizing applications, the method they use, and teacher education.

Lee and Wu (2006), in their study on teacher candidates, carried out forum discussions about each video through an online video application they put in a web-based computer-mediated communication system (CMC- Computer-Mediated Communication). This study examining teachers' viewing their own, peers' and expert teachers' application by the help of a video-featured CMC in the pre-service training finds that it enriched pre-service teachers' experience, improved their evaluation of individual learning styles, increased sharing through self- and peer-teaching, provided more concrete feedback, and enhanced more active participation of expert teachers (Lee & Wu, 2006; 378-379). In Can's (2009) study, it is found that after videotaping and analyzing their presentations, in the second time, participants

performed better in terms of lesson planning, carrying out the teaching, and identifying basic principles. In light of these findings, it is advised that micro-teaching should be incorporated in teaching practicum. In the same way, Şen (2009) says that teacher candidates improved their self-confidence, gained experience, and had the chance to observe themselves in micro-teaching applications based on self- and peer-assessment. In Çakır's study (2010), it is stated that participants perceived that the group work and micro-teaching technique improved their teaching skills and supported their creativeness. Participants also reported that they benefited from this technique in improving self-confidence. The study also mentions that trainer feedback was more beneficial than peer-feedback.

In Becit et al.'s study (2009) with computer teacher candidates, it is seen that students were in favor of the use of micro-teaching. As a result of Taşkın's study (2006), it is concluded that although micro-teaching applications are emphasized in contemporary teacher training, these are insufficient. Similar findings are supported Seferoğlu's study (2006). In her study with English language teacher candidates, Seferoğlu states that there is not necessarily a strong relationship between the materials used by participants and the applications in real classroom environments. Gürses et al. (2005) makes a comparison between before and after the micro-teaching applications. In the study, it is identified that there are some inadequacies in preparation and implementation of activities. Yapıcı and Yapıcı's study (2004) on teacher candidates it is stated that only 6% of the participants used micro-teaching techniques, and 94% did not use. The researches explained this finding by mentioning that the technique was not known in the setting and the school did not have appropriate equipment.

In this rapidly developing world of knowledge and technology, the use of micro-teaching technique in educational settings has become easier and more effective by the help of online platforms since it was developed in 1960's. It can be argued that in this process, videotapes have a positive effect on teacher candidates. Micro-teaching applications are particularly seen as a mirror (I'anson et al, 2003; Popovich & Katz, 2009) reflecting teacher candidates' self-efficacy development in their studies on listening, speaking, reading, and writing skills in the field of Turkish education.

Considering the difficulties during the experimental procedure of the study, there should be fewer candidates in the classroom environment to prevent the problems which might be encountered. It can be very difficult to organize the classroom and give each

candidate a certain amount of time. In addition, the instructional equipment in the classrooms the applications will take place, the acoustic setting, and other physical conditions should also be considered.

This study is limited to the Turkish language teacher candidates' presentations in the spring term. Future studies on the use of micro-teaching in either different levels of Turkish language teaching departments or other teaching fields would contribute to educational programs in determining teacher candidates' perceptions, attitudes, success and self-efficacy.

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