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THE EFFECT OF MICROTEACHING PRACTICES ON PRESERVICE TEACHERS' SENTIMENTS, ATTITUDES AND CONCERNS

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Abstract:
The literature shows that teachers and preservice teachers have negative sentiments and attitudes towards inclusive education. Considering this problem, this research aims to inquire the effect of the microteaching practices for science teachers' sentiments, attitudes and concerns about inclusive education. The research is designed by quantitative research method and by using the pretest and posttest control group pattern. The sample of the study consisted of 43 preservice teachers who were attending the 4th grade of the science teaching department of a state university in Istanbul in the fall semester of the 2017-2018 academic year. 18 preservice teachers were in the experimental group while 25 preservice teachers were in the control group. The Sentiments, Attitudes and Concerns Scale about Inclusion Education was used as a data collection tool. The scale consists of three factors and 15 items. SPSS 18.0 package program was used for data analysis. Preservice teachers in the experimental and control groups did not show significant differences for any factors of the scale before the application. The groups were equivalent. It was found that microteaching practices had positive effects on the attitudes of science teacher candidates towards inclusion. Another result was that the microteaching practices increased the anxiety levels of science teacher candidates towards inclusion. In line with the results of the research these can be suggested that preservice teachers should receive training for inclusion education, they should recognize the individual differences of the students who receive inclusion education, and the inclusion education should be associated with teacher education courses in science education for successful applications.

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Keywords: inclusion education, microteaching, science teacher candidate

1. Introduction

In recent years, education in the world have moved from integration to inclusion and the studies on them have been increasing rapidly. In Turkey, however, inclusion education is still not applied sufficiently despite the legal regulations and changes in education programs. Teachers and education programs are among the most important factors in inclusion education practices. Therefore, it is important that preservice teachers who will perform their professions to be equipped and prepared in order to be successful in inclusion education.

Microteaching technique can be used to enable preservice teachers to receive feedback about themselves in an environment similar to the educational environment in order to have experience in inclusion education. Microteaching is a practical process that allows the teachers to examine the teaching process under a microscope. In microteaching, it is recorded how the preservice teachers apply the instruction, then the record is reviewed by themselves and the experts and feedback is provided to help the preservice teachers to improve themselves (Allen, 1967; Elias, 2018; Peker, 2009; Saban & Çoklar, 2013). Microteaching also helps preservice teachers to gain the ability to plan and conduct their courses. The main goal in microteaching technique is to help the teachers to improve teaching technique through practice, feedback and evaluation (Orlich, Harder, Callahan, Kauchak, Pendergrass, Keogh, & Gibson, 1990). With the microteaching technique, preservice teachers have the opportunity to correct their mistakes and to correct their deficiencies by tracking their own applications and improve the quality of their teaching activities.

It is very important to put into practice the theoretical knowledge in teacher training. However, there is often a gap between theory and practice in educational processes. The microteaching technique is one of the most effective techniques to bridge the gap between theory and practice (Ghanaguru, Nair and Yong, 2013). With microteaching, it is ensured that preservice teachers to increase their self-confidence by gaining experience and developing their own teaching styles before starting the profession (Karadağ and Akkaya, 2013). Microteaching practices contribute to the emotional development as well as the affective development of the preservice teachers. There are many studies examining the effect of microteaching on the self-development and the affective characteristics of preservice teachers (Akalın, 2005; Copeland, 2001; Karamustafaoğlu and Akdeniz, 2002; Karışan, 2017; Kazu, 1999; Marulcu and Dedetürk, 2014). Microteaching practices will increase the quality of teaching by creating positive effects on the sentiments of the preservice teachers such as rapport, attitudes, reliance and trust. With this advantage that microteaching provides to preservice teachers they become emotionally prepared for negative situations that may occur in the educational environment.

Microteaching practices can prepare preservice teachers for various new and special situations. One of these special cases is the education of students with special needs. Prior to 1960, the medical model was dominant worldwide as an approach for dealing with the disabled individuals. This model assumes that the person with special needs must be cured to participate in social life. As a result of the Human Rights movement that advanced in the 1960s and the developments in special education fields, the social model have came to the forefront. This model aims to promote the participation of individuals with special needs in education and social life as is. Thus, it is becoming more common for individuals with special needs to receive education together with their peers in general education schools (ERG, 2011; url1). The concept of inclusion education provides for many individuals in need of special education to enter into society without being isolated from their peers (Gözün and Yıkmış, 2004). For the students who need special education, inclusion education means to share the same learning environment with their peers who do not need special education and who study in normal formal education institutions (Gökdere, 2012). Inclusion education gains importance in terms of ensuring the equal right of every individual to education and training, and at the same time, the integration of individuals with special needs with their peers in the classroom and the society (Aker, 2014; Camadan, 2012). Inclusion education provides important contributions to students with special needs in every aspect and helps to raise awareness of their normally developing peers and the society (Anılan and Kayacan, 2015). In addition, through inclusive education help the normally developing students to be tolerant towards students with special needs, not to develop prejudice against them, as well as to develop self-confidence, to have exemplary attitude, to be supportive, to be helpful and to cooperate (Demir and Açar, 2010). Inclusion education helps individuals to be integrated into society.

It is the responsibility of the teacher that the inclusion students to be educated together with normal students in a positive classroom environment. Teachers play an important role in integrating the class with the students with special needs and getting the sense of belonging of the student to a class and the society (Gökdere, 2012). Considering the other components that are important in inclusion education, the physical environment of the class, the number of students, the materials used in teaching, and the suitability of the curriculum prepared for students with special needs gain significance (Vural and Yıkmış, 2008). It is also the duty of the classroom teachers to provide these elements. Teachers should allow the students with special needs to express themselves by emphasizing their abilities rather than their inadequacy (Bayar, Özaşkın & Bardak, 2015; Kargın, 2004). Teachers' knowledge and experience in inclusion education help them manage this process correctly.

Previous studies show that teachers and preservice teachers generally do not have enough knowledge about the concept of inclusion and they generally had negative opinions about inclusion students (Batu, 1998; Diken, 1998; Giangreco, Dennis, Cloninger, Edelman, & Schattman 1993; Kaya, 2005; Melber, 2004; Mertoğlu, 2018). On the other hand in a survey conducted by Yılmaz and Melekoğlu, it is stated that while

many European countries (England, Denmark, Spain, Sweden, Greece, Bosnia and Herzegovina, Bulgaria and Lithuania) including Turkey has legal regulations regarding inclusion education there are a number of problems in their implementation. In Ireland and Italy, the legal regulations on inclusion education have been implemented more successfully. In this sense, it is important to provide training on inclusion education in order for the preservice teachers to have information about the concept of inclusion, to integrate the inclusion students with the classroom and to create lesson plans and programs for the special students. Previous researches show that the training has a positive effect on the attitudes of preservice teachers towards inclusion education (OREL et al., 2004, Gözün and Yıkmış, 2004). This research is important to provide improvement by revealing the sentiments, attitudes and concerns of the preservice teachers about the concept of inclusion. The literature indicates that teachers and preservice teachers have negative sentiments and attitudes towards inclusion education, and these might have changed to positive thanks to some practices (Alver, Bozgeyikli and Işıklar, 2011; Bülbin, Ünsal & Özokçu, 2004; Gözün and Yıkmış, 2004). However, no study has been found in the literature on the effects of microteaching technique on the sentiments, attitudes and concerns of preservice teachers towards inclusion education.

2. Purpose of the Research

In this study, it is aimed to inquire the effect of the microteaching practices for science teachers' sentiments, attitudes and concerns about inclusive education.

3. Research Questions

The problem of the research is stated as "What is the effect of microteaching practices on the sentiments, attitudes and concerns of preservice science teachers about inclusion education?"

In this context, the research sought to answer the following sub-problems:

1) Is there a significant difference between the pretest scores of the sentiments, attitudes and concerns of the experimental and control groups about inclusion education?
2) Is there a significant difference between the pretest and posttest scores of the experimental group's sentiments, attitudes and concerns about inclusion education?
3) Is there a significant difference between the pretest and posttest scores of the control group's sentiments, attitudes and concerns about inclusion education?
4) Is there a significant difference between the posttest scores of the sentiments, attitudes and concerns of the experimental and control groups about inclusion education?

4. Material and Methods

4.1. Research Design

Pretest-posttest control group design, one of the experimental designs of quantitative research method, was used in the study. According to this pattern, the participants are assigned to the intervention conditions impartially and then the pretest is applied. After that the posttest is applied to both experimental and control groups (Christensen, Johnson, & Turner, 2012, p.269). In this research, one of the two classes of the same level of a university was chosen as the experimental group and the other group was determined as the control group.

4.2. Sample

The sample of the study consists of preservice teachers who are attending the fourth year of science teaching department of a state university in Istanbul in the fall semester of the 2017-2018 academic year. One experimental group and one control group were selected in the study. For selecting these groups, simple random sampling method was used. In this sampling method, groups are randomly selected by providing to each sampling unit the possibility of equal selection (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz ve Demirel, 2016). In this study, one of the two groups was randomly chosen as the experimental group and the other as the control group. There were 18 preservice teachers in the experimental group and 25 in the control group. Both groups did not receive any training previously on inclusion education. Demographic information of the sample is given in Table 1.

Table 1: Demographic information of the sample

		Sex		**Total**
		Female	Male	
Group	Experimental	13	5	18
	Control	22	3	25
Total		35	8	**43**

4.3. Data Collection Tool

As a data collection tool, Sentiments, Attitudes and Concerns about Inclusive Education Scale (SACIE) developed by Forlin, Earle, Loreman and Sharma (2011) and adapted to Turkish by Bayar, Özaşkın and Bardak (2015). The scale is consisted of 15 items with three factors: "Sentiments about Inclusive Education", "Attitudes about Inclusive Education" and "Concerns about Inclusive Education". Cronbach Alpha internal consistency coefficient of the scale is 0.88, and it is 0.86 for the first dimension, 0.88 for the second dimension and 0.85 for the third dimension. They are 0.78, 0.80 and 0.81 respectfully for this research. Cronbach Alpha coefficients of the measuring instruments used in the researches should be at least 0.70 for a sufficient reliability level (Sipahi, Yurtkoru and Çinko, 2008; Tezbaşaran, 1996). The Cronbach Alpha internal consistency coefficient

calculated for the whole scale and its sub-dimensions of this research is greater than 0.70, so the reliability level is sufficient.

4.4. Procedures

In this experimental research, which is aimed to investigate the effects of microteaching applications on the statements, attitudes and concerns of preservice science teachers about inclusion education, some interventions were applied to the experimental group chosen by random assignment. The applied procedures are presented in Table 2. The process is conducted with the preservice teachers who are attending the fourth year of science teaching department of a state university in Istanbul in the fall semester of the 2017-2018 academic year. The applications were carried out in the Alternative Measurement and Evaluation course. SACIE was applied as a pretest at the beginning of the fall semester to the control group, which was determined by random assignment and consisted of 25 people. During the semester, the course was taught according to the curriculum. At the end of the semester, SACIE which was applied previously as a pretest was applied as a posttest. SACIE was applied as a pretest at the beginning of the fall semester to the experimental group, which was determined by random assignment and consisted of 18 people. As the difference from the control group practices, microteaching practices were applied to the experimental group in addition to the regular syllabus of the course. At the end of the semester, SACIE which was applied previously as a pretest was applied as a posttest.

Table 2: Procedures applied to control and experimental groups

Control Group	**Experimental Group**
Pretest (Sentiments, Attitudes and Concerns Scale about Inclusion Education)	Pretest (Sentiments, Attitudes and Concerns Scale about Inclusion Education)
Curriculum of Alternative Measurement and Evaluation course	Curriculum of Alternative Measurement and Evaluation course + Microteaching applications
Posttest (Sentiments, Attitudes and Concerns Scale about Inclusion Education)	Posttest (Sentiments, Attitudes and Concerns Scale about Inclusion Education)

4.5. Data Analysis

SPSS 18.0 package program was used in the analysis of the data obtained from the scales. In the research, statistical significance level was accepted as 0.05. Total scores related to the sub-dimensions of the scale were calculated. In the analysis of the scale data, Kolmogorov-Smirnov and Shapiro-Wilk tests were used to test whether the scores obtained show a normal distribution. The normality distribution test results of the scale are presented in Table 3.

Table 3: The normality distribution test results of the SACIE

Scale	Group		Kolmogorov-Smirnov			Shapiro-Wilk		
			Statistics	sd	p	Statistics	sd	p
SACIE	Sentiment	Pretest	.164	43	.005*	.951	43	.064
		Posttest	.146	43	.022*	.936	43	.018
	Attitude	Pretest	.145	43	.023*	.947	43	.046
		Posttest	.247	43	.000*	.881	43	.000
	Concern	Pretest	.189	43	.001*	.916	43	.004
		Posttest	.167	43	.004*	.932	43	.014

*p< .05

If the group size is greater than 30, Kolmogorov-Smirnov test is used to determine the normality of the scores (Can, 2013). If the calculated p-value is greater than 0.05, it indicates that the scores show normal distribution (Büyüköztürk, 2015). When Büyüköztürk's references were taken into consideration and the results of the normality test in Table 3 were examined, it was seen that the SACIE pretest and posttest scores of both groups did not show a normal distribution (p< .05). The skewness and kurtosis coefficients were examined in order to confirm whether the SACIE pretest and posttest scores of the control and experimental groups showed a normal distribution. According to George and Mallery (2003), the data sets in which skewness-kurtosis coefficients are within ± 2 range show normal distribution. Since the skewness and kurtosis coefficients of the SACIE pretest and posttest scores of the experimental and control groups were not within ± 2 range, the data sets did not show a normal distribution.

5. Results

The results of the analyses on the first subproblem statement as "Is there a significant difference between the pretest scores of the sentiments, attitudes and concerns of the experimental and control groups about inclusion education?" are presented in Table 4.

Table 4: Mann - Whitney U Test Analysis Results of Pretest Scores by Groups

Scale	Group	N	Rank Average	Rank Totals	U	z	p
Sentiment	Experimental	18	23.78	428,00	193,000	-.809	.419
	Control	25	20.72	518,00			
Attitude	Experimental	18	25.33	456,00	165,000	-1.506	.132
	Control	25	19.60	490,00			
Concern	Experimental	18	23.11	416,00	205,000	-.514	.608
	Control	25	21.20	530,00			

Table 4 shows that there was no significant difference between the pretest and posttest scores of all dimensions of the SACIE of the experimental and control groups. [Sentiment (*U*=193.000; *z*=-.809; *p*=.419), Attitude (*U*=165.000; *z*=-1.506; *p*=.132), Concern (*U*=205.000; *z*=-.514; *p*=.608)]. Therefore, it was seen that the experimental and control groups had similar levels of sentiment, attitude and concern before the research.

The results of the analyses on the second subproblem statement as "Is there a significant difference between the pretest and posttest scores of the control group's sentiments, attitudes and concerns about inclusion education?" are presented in Table 5.

Table 5: Wilcoxon signed rank test results on whether the experimental group's sentiments, attitudes and concerns about inclusion education differ significantly according to the pretest and posttest

Scale	Group	N	Rank Average	Rank Totals	Z	p
Sentiment	Negative Rank	9	7.89	71.00	-1.854	.064
	Positive Rank	4	5.00	20.00		
	Equal	5				
Attitude	Negative Rank	5	6.00	30.00	-1.104	.270
	Positive Rank	8	7.63	61.00		
	Equal	5				
Concern	Negative Rank	7	5.50	38.50	-.516	.606
	Positive Rank	6	8.75	52.50		
	Equal	5				

Table 5 shows that there was no significant relationship between pre and post test scores of sentiments, attitudes and concerns related to inclusion education of the experimental group. [Sentiment (z=-1.854; p> .05), Attitude (z=-1.104; p> .05), Concern (z=-.516; p> .05)]. The results of the analyses on the third subproblem statement as "Is there a significant difference between the pretest and posttest scores of the control group's sentiments, attitudes and concerns about inclusion education?" are presented in Table 6.

Table 6: Wilcoxon signed rank test results on whether the control group's sentiments, attitudes and concerns about inclusion education differ significantly according to the pretest and posttest

Scale	Group	N	Rank Average	Rank Totals	Z	p
Sentiment	Negative Rank	7	8.79	61.50	-.340	.734
	Positive Rank	9	8.28	74.50		
	Equal	9				
Attitude	Negative Rank	10	9.55	95.50	-.021	.983
	Positive Rank	9	10.50	94.50		
	Equal	6				
Concern	Negative Rank	8	9.63	77.00	-.025	.980
	Positive Rank	9	8.44	76.00		
	Equal	8				

Table 6 shows that there was no significant relationship between pre and post test scores of sentiments, attitudes and concerns about inclusion education of the control group. [Sentiment (z=-.340; p> .05), Attitude (z=-.021; p> .05), Concern (z=-.025; p> .05)].

The results of the analyses on the fourth subproblem statement as "Is there a significant difference between the posttest scores of the sentiments, attitudes and

concerns of the experimental and control groups about inclusion education?" are presented in Table 7.

Table 7: Mann - Whitney U Test Analysis Results of Posttest Scores by Groups

Scale	Group	N	Rank Average	Rank Totals	U	z	p
Sentiment	Experimental	18	19.78	356,00	185,000	-1.004	.315
	Control	25	23.60	590,00			
Attitude	Experimental	18	27.31	491,50	129,500	-2.448	.014*
	Control	25	18.18	454,50			
Concern	Experimental	18	24.39	439,00	182,000	-1.092	.275
	Control	25	20.28	507,00			

*p< .05

Table 7 shows if the posttest scores of all dimensions of the scale differ for the experimental and the control groups. The findings of the study show that preservice science teachers' attitudes about inclusion education has a significant difference between experimental and control groups in favor of the experimental group (U=129.500; z=-2.448; p=.014). The posttest scores show no significant difference between the experimental group and the control group for the "Sentiments about Inclusive Education" dimension (U=185.000; z=-1.004; p=.315). The experimental group's average scores for this dimension decreased and posttest scores were lower compared to the control group. The posttest scores show no significant difference between the experimental group and the control group for the "Concerns about Inclusive Education" dimension (U=182.000; z=-1.092; p=.275). The experimental group's average scores for this dimension decreased and posttest scores were higher compared to the control group.

6. Discussion, Conclusion and Recommendations

It is important for the inclusion students to be made part of society by providing equal opportunities in education and to be able to live in a healthy way within the society. It is a practice that serves this purpose by integrating these students with normal students and getting them to study in the same environment. The most important factor influencing the healthy implementation of the inclusion program is undoubtedly the teachers. It is believed that if teachers and preservice teachers do not receive any training for inclusive education and do not perform any practice, their sentiments and attitudes towards this education will be affected negatively during their professional life and their concern levels will increase. Therefore, this study investigates the effect of the microteaching method on the sentiments, attitudes and concerns of the preservice teachers about inclusion education.

The research is designed by quantitative research method and by using the pretest and posttest control group pattern. The participants of the study consisted of 43 preservice teachers who are attending the 4th grade of a public university in Istanbul. The Sentiments, Attitudes and Concerns Scale about Inclusion Education was used as a

data collection tool. The data obtained from the research were analyzed using SPSS 18.0 program.

According to the findings of the research the average scores of the preservice teachers in the experimental and control groups were very close to each other and did not show significant difference before the microteaching applications. However, after the applications, preservice science teachers' attitudes towards inclusion were affected positively, their sentiments were negatively affected and their concern levels increased.

Teachers' attitudes towards inclusion education are seen as an important determinant of the success (Kayhan, Şengül and Piştav Akmeşe, 2012). In this context, preservice teachers' attitudes towards inclusion education should be investigated and negative attitudes should be changed with positive ones. Because, the quality of the services that individuals with disabilities will receive depends on the attitudes of individuals who directly or indirectly interact with them (Ardıç, 2016). In this way, preservice teachers will successfully realize inclusion education in their future career.

In this study, the average attitudes scores of the experimental group were higher than the control group after the application. This finding shows that microteaching practices have a positive effect on the attitudes of preservice science teachers towards inclusion. In a study, Leyser, Kapperman and Keller (1994) found that university graduate teachers had more positive attitudes towards inclusion practices compared to teachers who received lesser education. It is believed that this may be due to the fact that the teachers have implemented inclusion practices in their professional work. In addition, the literature (Aker, 2014; Alsheikh and Elhoweris, 2006; Bek, Gülveren and Baser, 2009; Gözün and Yıkmış, 2004; Orel, Zerey and Töret, 2004) shows that the attitudes of teachers and preservice teachers who took courses on inclusion were more positive than those who did not. In these courses, applications such as microteaching may provide more positive attitudes for preservice teachers towards inclusion education.

Özyürek (2000) stated that the thoughts, beliefs and emotions that we have affect our attitudes, behaviors and the arrangements we will make for handicapped persons. Therefore, in this study, sentiments of the preservice teachers about inclusion education were investigated.

The literature shows that teachers may have concerns about inclusion (D'Alonzo, Giordano and Vanleeuwen, 1998; Gal, Schreur and Engel-Yeger, 2010; Heiman, 2014). According to Bandura (1994), physiological and psychological factors such as stress, fear and anxiety are positive and negative factors that affect people's belief in doing a job. It is believed that reducing the concerns of preservice teacher about inclusion education may contribute to the competence of the teachers in inclusion education during their professional work.

The posttest scores of the preservice teachers show no significant difference between the experimental group and the control group for "Concerns about Inclusion Education" sub-dimension. The experimental group's average scores for this dimension decreased and posttest scores were higher compared to the control group. This finding shows that preservice science teachers' concern levels about inclusion education

increased as a result of microteaching applications. It is believed that the preservice teachers gained awareness towards inclusion students because they carried out the course considering the individual differences of the students in the microteaching classes. The diversity of students in the classroom may have caused their concerns about inclusive education to increase. In addition, the lack of special education and inclusion courses in the science undergraduate program explains this situation. It is also believed that, gain awareness about inclusion, the preservice teachers in the experimental group may have been aware of their own deficiencies about the issue.

In Turkey, only preschool and classroom teacher programs include inclusion education courses as well as special education courses. However, inclusion education is available at every grade level. For this reason, the specialist teachers to receive training on the subject will contribute to the continuity of inclusive education. It is recommended to eliminate the existing deficiency through making necessary arrangements by educational policy makers and university administrations. In the undergraduate programs, microteaching practices are conducted in the school experience and teaching practice courses, but individual differences and especially inclusion students are not emphasized in these courses. In line with the results obtained from this study, it may be suggested to apply microteaching with emphasis on individual differences and especially inclusion students.

In line with the results of the research, qualitative research can be conducted in order to investigate in depth the reasons for the negative sentiments about inclusion education resulting from microteaching practices. In addition, it may be suggested to conduct experimental studies using various methods and techniques in order to reduce the concern levels of preservice teachers. In order to make inclusion education more qualified, it is recommended to conduct experimental studies on the effects of different teaching methods and techniques on the sentiments, attitudes and concerns of preservice teachers.

The sample of the study is limited to the university in a single province. In order to reach more generalizable results, it is recommended to conduct a new research with a wider sample.

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