

An Examination of the Relationship Between the Critical Thinking Dispositions of Prospective Teachers and Their Attitudes Toward Multicultural Education

Öğretmen adaylarının eleştirel düşünme eğilimleri ile çokkültürlü eğitime yönelik tutumları arasındaki ilişkinin incelenmesi

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Özet

Bu çalışmanın amacı, öğretmen adaylarının eleştirel düşünme eğilimleri ile çokkültürlü eğitime yönelik tutumları arasındaki ilişkiyi incelemektir. Araştırmada tarama modellerinden ilişkisel tarama modeli kullanılmıştır. Araştırmanın evrenini Çukurova Üniversitesi Eğitim Fakültesinde öğrenim gören öğretmen adayları oluşturmaktadır. Araştırmanın örneklemini basit tesadüfi yöntemle seçilmiş 451 öğretmen adayı oluşturmaktadır. Araştırmada; kişisel bilgiler formu, Türkçe'ye Demircioğlu (2012) tarafından uyarlanan 'Eleştirel Düşünme Eğilimi Ölçeği' ile Yavuz and Anıl (2010) tarafından geliştirilen 'Öğretmen Adayları İçin Çok Kültürlü Eğitime Yönelik Tutum Ölçeği' kullanılmıştır. Verilerin analizinde betimsel istatistik, çok değişkenli varyans analizi (MANOVA), Pearson çarpım momentler korelasyon analizi ve çoklu doğrusal regresyon analizi kullanılmıştır. Araştırma sonucunda öğretmen adaylarının; eleştirel düşünme eğilimi ile çokkültürlü eğitime yönelik tutuma ait ölçeklere "katılıyorum" düzeyinde görüş belirttikleri görülmüştür. Öğretmen adaylarının eleştirel düşünme eğilimleri cinsiyet açısından anlamlı bir farklılık gösterirken sınıf ve bölüm değişkenleri açısından anlamlı bir farklılık göstermemiştir. Çokkültürlü eğitime yönelik tutumları cinsiyet ve bölüm açısından anlamlı bir farklılık göstermezken, sınıf açısından anlamlı bir farklılık göstermiştir. Öğretmen adaylarının eleştirel düşünme eğilim puanları ile çokkültürlü eğitime yönelik tutum puanları arasında pozitif yönlü zayıf düzeyde bir ilişkinin olduğu; eleştirel düşünme eğilimi ölçeğine ait bilişsel olgunluk, öngörüsellik ve yenilikçilik alt boyutlarının çokkültürlü eğitime yönelik tutum ile anlamlı bir ilişki sergilediği ve söz konusu üç değişkenin birlikte, çokkültürlü eğitime yönelik tutumun yaklaşık %10'unu açıkladığı tespit edilmiştir.

Anahtar sözcükler: Çokkültürlü eğitim, çokkültürlülük, eleştirel düşünme, eleştirel düşünme eğilimi.

Abstract

The aim of this study is to examine the relationship between critical thinking dispositions of prospective teachers and their attitudes toward multicultural education. Relational survey model was used in the study. The population of the study consists of prospective teachers studying in the Faculty of Education at Çukurova University. The sample of the study is composed of 451 prospective teachers selected by simple random method. Personal information form, The Scale of Critical Thinking adapted into Turkish by Demircioğlu (2012) and 'The Scale of Attitude Towards Multicultural Education for Prospective Teachers (OCKET)' which was developed by Yavuz and Anıl (2010) were used. For the data analysis, descriptive statistics, multivariate analysis of variance (MANOVA), Pearson's product-moment correlation analysis and multiple linear regression analysis were used. The results of the study show that prospective teachers express their opinions as "agree" regarding critical thinking disposition and attitude towards multicultural education scales. Whereas critical thinking dispositions of the prospective teachers differ significantly in terms of gender, it does not show any significant difference depending upon grade and department. Their attitudes toward multicultural education showed no significant difference in terms of gender and department while there was a significant difference depending on grade. It was determined that there is a low level of positive relationship between the scores of critical thinking dispositions prospective teachers and their attitudes towards multicultural education. Moreover, it was observed that the sub-dimensions of critical thinking disposition scale such as cognitive maturity, engagement and innovation have a significant relationship with the scales of attitude towards multicultural education, and about 10% of the attitudes toward multicultural education can be explained with these three variables together.

Keywords: Critical thinking, critical thinking dispositions, multicultural education, multiculturalism.

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Nowadays, rapid advances and changes in science, art, and technology affect social, cultural, economic and political areas and thus necessitating changes in these areas. All these changes have led to the changes of individuals as models. Education is a significant tool so that individuals can adapt to these rapid advances and changes. Indeed, today the major goal of education is to train individuals who adapt to different conditions, think in a detailed manner and question, have creative, critical and multiple thinking skills as well as problem-solving skills, are respectful and tolerant to people and different cultures, and are aware of their responsibilities toward the environment and community. It is essential that individuals have critical thinking skills in order that they can easily keep up with the changes and developments in this age.

Critical thinking has been defined by different scientists in various ways. Known for his outstanding studies on critical thinking, Richard Paul (1991) defines critical thinking as achieving the results based on observation and information. Norris (1985) considers critical thinking as the way for students to change their behaviors critically through applying all they already know to one subject and evaluating their thinking skills. Duphorne (2005) defines critical thinking as an environment which is to include a variety of opportunities and ideas, analysis and applications with the aim of supporting value judgments as well as organizing ideas. Chun (2010) states that critical thinking is a reliable form of thinking along with analytical reasoning and problem solving in general; it has wide variety of conceptual definitions. Ramasamy (2011) indicates that for a person to be a critical thinker, s/he needs to be accompanied by critical thinking dispositions. However, Senemoğlu (2011) mentions that attitudes have an impact upon people's actions, dispositions and preferences. Senemoğlu defines attitude as "an achieved internal situation in individual activities towards individuals and events" (2011). Besides, disposition was defined by Facione, Giancarlo, Facione and Gainen (1995) as a tendency to use orientation skills. Ennis (1987) explains critical thinking disposition as "a disposition to do something under certain conditions". Critical thinking disposition is also defined as the willingness of individuals for using critical thinking and thinking critically. It is possible for the individuals to use critical thinking skills in appropriate situations in order to have critical thinking disposition as it is a prerequisite for critical thinking. Therefore, critical thinking dispositions must be acquired at first so that individuals can have critical thinking ability (Yıldırım & Şensoy, 2011).

One of the factors affecting critical thinking skills and dispositions of individuals is the culture of the society in which individuals are born and brought up by allowing the formation

of their personalities. Every society has its own customs, traditions and social norms; its own culture, in other words. Individuals learn the culture of the society in which they live during the socialization process and try to survive society by transferring it to the other generations (Tümkeya & Aybek, 2008). In this regard, critical thinking skills and dispositions of individuals living in a multicultural society are affected by the cultural characteristics of society. Bigatti et al. (2012) clearly state that multicultural education develops students' critical thinking skills. Hohensee, Bission and Derman-Sparks (1992) assert that one of the goals of multicultural education is to provide critical thinking skills related to prejudices against cultural differences. Bohn and Sleeter (2000) reveal that multicultural education ensures critical thinking environment for students. Besides, in the study conducted by Marangoz (2014), teachers and administrators emphasize that multicultural education allows students to acquire critical thinking skills.

Multiculturalism is the recognition of race, ethnicity, language, sexual orientation, gender, age, disability, social class, education, religious orientation and other cultural aspects (American Psychological Association [APA], 2002). Within societies having a multicultural structure, cultural characteristics have also affected education and hence the concept of multicultural education has emerged. Banks et al. (2001) define multicultural education "as an idea, education *reform and a process trying to create equal educational opportunities for all students from different races, ethnics and social groups; for this struggling for changing the entire school setting and restructuring it.*" Gay (1994) acknowledges multicultural education "as an educational reform movement and process which aims to change the structure of educational institutions in order that all students have an equal chance at academic success." Mwonga (2005) considers multicultural education as a democratic citizenship education which is familiar with the majority of society. Nieto and Bode (2011) remark that multicultural education is considered as an education based upon democratic values and objectives, cultural pluralism, social justice and the students' social, personal and intellectual development.

In Turkish literature, various studies are available concerning prospective teachers' critical thinking dispositions (Aybek & Aslan, 2017; Beşoluk & Önder, 2010; Coşkun, 2013; Emir, 2012; Güneş, Barış, & Kırbaşlar, 2013; Kartal, 2012; Kırmızı, Fenli, & Kasap, 2014; Korkmaz, 2009; Özgür, 2013; Tümkeya, 2011) whereas there is a small number of researches which examine their attitudes toward multicultural education (Tortop, 2014; Yılmaz & Göçen, 2013). In recent years, the main objective of education has been to train democratic individuals who evaluate information with a critical perspective, find solutions to problems observed in society, keep pace with

advances in technology, have different perspectives, and respect different cultural elements. In order to accomplish this goal, individuals need to have critical thinking skills and a positive attitude toward multicultural education. It is vital that critical thinking dispositions of prospective teachers who will educate future generations have to be high and their attitude toward multicultural education need to be positive. Examining national and international literatures, it has not been found any research which investigates the relationship between critical thinking dispositions of prospective teachers and their attitudes multicultural education. Based upon all these reasons, it becomes a must to conduct such a research. This research is expected to contribute to the literature and teacher training programs.

The Aim of the Study

The aim of the present study is to examine the relationship between the critical thinking dispositions of prospective teachers and their attitudes toward multicultural education. Thus, research questions are as follows:

- What are the attitude levels of prospective teachers toward critical thinking dispositions and multicultural education?
- Is there a significant difference between critical thinking dispositions of prospective teachers and their attitudes toward multicultural education in terms of gender, grade and departments?
- Is there a significant relationship between critical thinking dispositions of prospective teachers and their attitudes toward multicultural education?
- Do the subdimensions of prospective teachers' critical thinking dispositions significantly predict their attitudes toward multicultural education?

Method

Research Design

This research has used relational survey model which is among the general survey models. Relational survey is a research model which aims to determine the relationship between variables and the existence and/or degree of joint variation between two or more variants (Sönmez & Alacapınar, 2011). Relational survey model was used in the study when the relationship between prospective teachers' critical thinking dispositions and their attitudes toward multicultural education is examined.

Population and Sample

The population of the study is composed of prospective teachers studying at Çukurova University Faculty of Education.

The sample of the study consists of 451 prospective teachers selected by simple random method. According to this sampling method, each participant is required to have an equal chance for participating in the study (Fraenkel, Wallen, & Hyun, 2013). Simple random sampling method was used since prospective teachers are included in the study based on an equal chance. The characteristics of prospective teachers are presented in ■ Table 1.

When ■ Table 1 is analyzed, it is seen that the number of female teachers (69%) is high; prospective teachers are mostly first-year students (52%) and they are from the department of Psychological Counseling and Guidance (20%).

Survey Form

Survey of this study is composed of three parts. These are as follows:

Personal Information Form: This form was developed by the researcher in order to find out the personal information of prospective teachers. Various questions are available related to prospective teachers' gender, grade and departments.

Critical Thinking Dispositions Scale (CTDS): This scale was developed by Ricketts and Rudd (2004). It was adapted into Turkish by Demircioğlu (2012) to test the appropriateness of the translation of the scale, linguistic equivalence of original language (English) and target language (Turkish) forms were conducted; the scores obtained from the original language and the target language forms were compared; thus it was determined that there is no meaningful difference. Exploratory factor analysis was performed for data obtained

■ Table 1. The demographic characteristics of the participants.

	f	%
Gender		
Female	310	69
Male	141	31
Grade		
1st year	235	52
4th year	216	48
Department		
Classroom Teaching	45	10
Science Teaching	59	13
Social Sciences Teaching	50	11
Turkish Teaching	56	12
Pre-school Teaching	50	11
English Teaching	65	14
Psychological Counseling and Guidance	88	20
Computer Teaching	38	8
Total	451	100



from the high school students at the 1st grade through principal component analysis method so as to reveal CTDS' scale structure. Depending upon the results of the analyses, it was found that the scale is a three-factor structure similar to the original structure, items of one factor are collected under their own factors; they were observed to have high load factors. However, unlike the original structure, it was determined to replace the second and third factors. The basic components of the scale determined by exploratory factor analysis, the structure of the scale and to what extent the scale explains critical thinking dispositions were determined via confirmatory factor analysis. The results of the analyses showed that a three-factor structure of CTDS has high compliance index as a model. Within the scope of the study, correlation analysis, through which the relationship between CTDS' subscales and total scores is examined, was performed. Accordingly, it was found that subscales are correlated with the total score, which is statistically significant at the .01 level. As for the CTDS' reliability analysis, internal consistency of the scale and each subscale was calculated. The overall reliability coefficient of the scale was found to be .88. When Cronbach's alpha internal consistency coefficient of CTDS and its subscales were examined, it was determined that cognitive maturity is $\alpha=.71$, engagement is $\alpha=.87$ and innovation is $\alpha=.84$. Finally, test-retest reliability was examined in terms of the reliability. Two implementations were carried out and the relationship among the scores obtained from these two implementations was calculated through Pearson's product moment technique. As a result of the analysis, it was found that there was a significant and high level positive correlation among the scores (general $r=.78$, engagement $r=.76$, cognitive maturity $r=.70$, innovativeness $r=.71$). This indicates that test-retest reliability of the scale is sufficient. The lowest score that can be obtained from the scale is 25 while the highest score is 125 (Demircioğlu, 2012). The scale was examined by the researcher and thus it was found to be appropriate for prospective teachers.

Attitudes Toward Multicultural Education Scale: This scale developed by Yavuz and Anil (2010) was used in the study. The scale is a five-point Likert-type consisting of 28 items in total, 22 of which are positive while 6 of them are negative. The options are ranked as 'totally agree', 'agree', 'partially agree', 'disagree', or 'strongly disagree'. The items of the scale were scored considering them as positive and negative. To illustrate, Item 1 refers to a positive attitude as "Prospective teachers are needed to have an education process by which they can analyze and evaluate different cultures." On the other hand, Item 4 indicates a negative attitude as "Educational activ-

ities regarding different cultures disrupt social cohesion." The reliability and validity of the scale were performed by Yavuz and Anil (2010) with over 214 participants. Cronbach's alpha reliability value of the study was calculated as 0.93. Construct validity of the scale was tested via exploratory factor analysis and it was found to measure one-dimensional structure. After receiving the necessary permits, both scales were used in the study. Cronbach's alpha internal consistency coefficient of these two scales was determined. The overall Cronbach's alpha coefficient of the critical thinking disposition scale is .85 while that of Engagement was found to be .87; Cognitive Maturity is .79 and Innovation is .84. Cronbach's alpha coefficient of attitudes toward multicultural education scale was determined to be .73. Seçer (2013) stated that Cronbach's alpha coefficient is to be .70 and higher. Based on this reference, both scales are considered as reliable.

Data Analysis

Research data were analyzed through using a statistical software package. First, it was checked whether data meet the general conditions of parametric test or not. Kolmogorov-Smirnov test was used to determine whether data show normal distribution. The result of the analysis revealed that data have a normal distribution. In analyzing the data, descriptive statistics, multivariate analysis of variance (MANOVA), Pearson's product moment correlation analysis and multiple linear regression analysis were used.

Results

Descriptive statistics related to critical thinking disposition of prospective teachers and their attitudes toward multicultural education are presented in ■ Table 2.

Upon analyzing ■ Table 2, it is seen that prospective teachers expressed their opinions as "agree" for the overall of the critical thinking disposition scale ($\bar{x}=4.02$), engagement subdimension ($\bar{x}=3.98$), innovativeness ($\bar{x}=4.00$), cognitive maturity ($\bar{x}=4.13$) and attitudes towards multicultural education scale ($\bar{x}=3.79$).

■ **Table 2.** Descriptive statistics related to critical thinking disposition of prospective teachers and their attitudes toward multicultural education.

Variables	n	\bar{x}	Sd	
Critical thinking dispositions	Engagement	451	3.98	.42
	Innovativeness	451	4.00	.42
	Cognitive maturity	451	4.13	.41
	General	451	4.02	.35
Attitude toward multicultural education	451	3.79	.25	

Table 3. One-way MANOVA results related to critical thinking dispositions of prospective teachers and their attitudes toward multicultural education in terms of gender.

Dependent variable	Gender	<i>n</i>	\bar{x}	<i>ss</i>	<i>sd</i>	<i>F</i>	<i>p</i>	η^2
Critical thinking disposition	F	310	3.99	.34	1-451	5.34	.02*	.01
	M	141	4.08	.37				
Attitude toward multicultural education	F	310	3.79	.24	1-451	.14	.70	.00
	M	141	3.78	.28				

* $p < .05$

One-way MANOVA results related to critical thinking dispositions of prospective teachers and their attitudes toward multicultural education in terms of gender are shown in Table 3.

One-way MANOVA analysis was conducted with the purpose of determining the effect of gender on critical thinking dispositions of prospective teachers and their attitudes toward multicultural education. When assumptions of MANOVA analysis were checked, homogeneity assumption of spreading matrix according to Box's *M* statistics was found to be achieved ($F_{(3-5,781)}=1.916, p=.125$). Wilks' lambda test results revealed that the linear combinations of dimensions in relation to critical thinking disposition of prospective teachers and their attitudes toward multicultural education in terms of gender differ significantly (Wilks' $\lambda=.986, F_{(1,451)}=3.203, p=.04$).

One-way MANOVA results regarding to the critical thinking disposition of prospective teachers and their attitudes toward multicultural education are presented in Table 3. Accordingly, there is a significant difference between critical thinking dispositions of prospective teachers in terms of gender ($F_{(1-451)}=5.343, p<.05$) while no significant difference between attitudes toward multicultural education was found depending on gender ($F_{(1-451)}=.147, p>.05$). In addition, it is evident that the interaction of gender and critical thinking dispositions as well as attitudes toward multicultural education is effective at a low level (Green & Salkind, 2013). One-way MANOVA results associated with critical thinking disposition levels of prospective teachers and their attitudes toward multi-

cultural education in terms of grades are illustrated in Table 4.

One-way MANOVA analysis was performed so as to determine the effect of grade on critical thinking dispositions of prospective teachers and their attitudes toward multicultural education. When assumptions of MANOVA analysis were checked, homogeneity assumption of spreading matrix according to Box's *M* statistics was found to be achieved ($F_{(3-3,269)}=1.084, p=.354$). Wilks' lambda test results showed that the linear combinations of dimensions in relation to critical thinking disposition of prospective teachers and their attitudes toward multicultural education in terms of grade differ significantly (Wilks' $\lambda=.979, F_{(1,451)}=4.728, p=.00$).

One-way MANOVA results related to the critical thinking dispositions of prospective teachers and their attitudes toward multicultural education are presented in Table 4. Hereunder, it was pointed out that there is no significant difference among the critical thinking dispositions of prospective teachers in terms of grade ($F_{(1-451)}=2.501, p>.115$) whereas it significantly differs in terms of their attitudes toward multicultural education ($F_{(1-451)}=8.752, p<.05$). Moreover, it is clear that the interaction of grade and critical thinking dispositions as well as attitudes toward multicultural education is effective at a low level (Green & Salkind, 2013). Descriptive statistics related to critical thinking dispositions of prospective teachers and their attitudes toward multicultural education in terms of departments are presented in Table 5.

Table 4. One-way MANOVA results associated with critical thinking disposition levels of prospective teachers and their attitudes toward multicultural education in terms of grades.

Dependent variable	Grade	<i>n</i>	\bar{x}	<i>ss</i>	<i>sd</i>	<i>F</i>	<i>p</i>	η^2
Critical thinking disposition	1st year	235	4.05	.36	1-451	2.50	.11	.00
	4th year	216	3.99	.34				
Attitude toward multicultural education	1st year	235	3.75	.26	1-451	8.75	.00*	.01
	4th year	216	3.82	.24				

* $p < .01$



One-way MANOVA was conducted with a view to determine the effect of departments on critical thinking dispositions of prospective teachers and their attitudes toward multicultural education. When assumptions of MANOVA analysis were checked, homogeneity assumption of spreading matrix according to Box's M statistics was found to be achieved ($F_{21-27,311}=1.280, p=.17$). Wilks' Lambda test results indicated that the linear combinations of dimensions in relation to critical thinking disposition of prospective teachers and their attitudes toward multicultural education in terms of grade do not differ significantly (Wilks' $\lambda=952, F_{(7,451)}=1.580, p=.07$).

Besides, it is observed that the interaction of critical thinking dispositions and attitudes toward multicultural education is effective at a low level (Green & Salkind, 2013). The relationship between critical thinking dispositions of prospective teachers and their attitudes toward multicultural education was presented in Table 6.

With Pearson's correlation analysis which was made to determine whether there is a significant relationship between critical thinking dispositions of prospective teachers and attitude toward multicultural education, it was found that there is positive, low level (Sungur, 2014) significant correlation between them ($r=.263, p<.01$). Thus, in the event of the increase in prospective teachers' critical thinking disposition scores, the scores of attitude toward multicultural education are likely to increase as well.

To reveal whether the subscales of prospective teachers' critical thinking dispositions such as engagement, cognitive maturity and innovativeness predict their attitudes toward multicultural education or not, Multiple Linear Regression Analysis was performed and the results are presented in Table 7. It was found that engagement, cognitive maturity and innovativeness variables have a significant relationship with attitudes toward multicultural education ($R=.277, R^2=.076$) ($F_{(3-447)}=12.335, p<.01$). These three variables together explain about 10% of the attitudes toward multicultural education. According to the standardized regression coefficients, the order of importance of the predictor variables on

Table 5. Mean and standard deviation values of critical thinking disposition levels and attitudes toward multicultural education in terms of department.

Dependent variable	Department	n	\bar{x}	ss
Critical thinking dispositions	Classroom teaching	45	4.12	.33
	Science and technology	59	4.07	.38
	Social studies	50	4.06	.39
	Turkish	56	3.99	.41
	Pre-school	50	3.93	.30
	English	65	4.02	.37
	Psychological counseling and guidance	88	3.97	.30
	Computer teaching	38	4.05	.30
Attitude toward multicultural education	Classroom teaching	45	3.80	.24
	Science and technology	59	3.79	.28
	Social studies	50	3.79	.25
	Turkish	56	3.87	.25
	Pre-school	50	3.77	.22
	English	65	3.77	.25
	Psychological counseling and guidance	88	3.74	.22
	Computer teaching	38	3.81	.33

Table 6. The relationship between critical thinking dispositions of prospective teachers and their attitudes toward multicultural education.

Dependent variable	Critical thinking dispositions	Attitude toward multicultural education
Critical thinking dispositions	1	-
Attitude toward multicultural education	.263*	1

$n=451, *p<.01$

attitudes toward multicultural education is as such: innovativeness ($\beta=.176$), cognitive maturity ($\beta=.087$) and engagement ($\beta=.056$). Given the significance tests of regression coefficients, cognitive maturity and innovativeness, the predictor variables were found to be significant predictors of attitudes toward multicultural education.

Table 7. Multiple linear regression analysis results on the regression of critical thinking disposition to the attitudes toward multicultural education.

Predicted variable	Predicting variables	B	Standard error	β	t	p	r
Attitude toward multicultural education	Static	3.02	.13		22.28	.00	-
	Engagement	.03	.03	.05	.92	.35	.21
	Cognitive maturity	.05	.03	.08	1.54	.00	.21
	Innovativeness	.10	.03	.17	2.66	.00	.26

$R=.277, R^2=.08, F_{(3-447)}=12.335, p=.00$



Discussion

It was observed that prospective teachers express their opinions as “agree” with the scales regarding critical thinking dispositions and their attitude toward multicultural education. Based upon the result, it is likely to express that prospective teachers have a high-level critical thinking dispositions and attitude toward multicultural education is positive. Indeed, in the study carried out by Aybek, Aslan, Dinçer and Arısoy (2015), the same result is highlighted. When the literature is reviewed, different and various results have been found. Critical thinking dispositions of prospective teachers were found to be high and medium level in some of the studies (Evin-Gencil & Güzel-Candan, 2014; Kuvaç & Koç, 2014; Kartal, 2012); whereas in some of the studies dispositions of prospective teachers were found as low (Alkın-Şahin, Tunca, & Ulubey, 2014; Can & Kaymakçı, 2015). The reason for this difference may be related to the use of a different scale to measure the critical thinking dispositions.

Prospective teachers’ attitudes toward multicultural education are also significantly positive. So that prospective teachers can easily adapt to different cultures and act objectively to students who grew up in a different culture as well as integrating the cultural characteristics into the courses, they are supposed to have a positive attitude toward multicultural education. With literature review done by Başbay and Bektaş (2009) and Cırık (2008), they emphasize the importance of multicultural education in terms of educational field and teacher training. Furthermore, the study which was carried out by Demircioğlu and Özdemir (2014) shows that the attitudes of pedagogical training students toward multicultural education are high. In his study, Capella-Santana (2003) concluded that prospective teachers’ attitudes and knowledge toward multicultural education have changed positively. Also, Valentin (2006) puts forward that prospective teachers’ attitudes, belief and speech toward cultural differences differ in a positive manner. It was found in the study conducted by Toprak (2008) and Yazıcı, Başol and Toprak (2009) that teachers have favorable opinions about multicultural education. Likewise, in the study performed by Polat (2009), school principals have expressed positive views on multicultural education. The studies carried out by Damgacı and Aydın (2013) and Demir (2012) demonstrated that instructors also support multicultural education and their attitudes toward multicultural education are positive. Depending on the findings of this study, it may be concluded that those working in different fields of education have positive attitudes toward multicultural education. In our country with a multicultural structure, those who work in various fields of education have such

a positive attitude; hence, it can facilitate the implementation of multicultural education in schools.

The effect of gender on prospective teachers’ critical thinking dispositions and their attitudes toward multicultural education was examined. While critical thinking dispositions of prospective teachers showed a significant difference in gender, it does not differ in terms of their attitudes toward multicultural education. The fact that critical thinking dispositions of prospective teachers are significantly different in terms of gender can be interpreted as gender has an impact on critical thinking dispositions. In the literature review, it was found that there are various studies which do or do not support this result. Within the studies conducted by Ekinci and Aybek (2010), Coşkun (2013) and Kawashima and Shiomi (2007), no significant difference was found in terms of gender; whereas in those studies carried out by Rudd, Baker and Hoover (2000), Yıldırım (2005), Gülveren (2007), Zayıf (2008), Beşoluk and Önder (2010), and Çetinkaya (2011), gender was found to be a variable which leads to a significant difference between the views on critical thinking. Moreover, there is no difference among the prospective teachers’ attitudes toward multicultural education in terms of gender, which shows that gender does not have an impact upon attitudes toward multicultural education. With the literature review, it was determined that there are various studies which do or do not support this result. In the studies conducted by Coşkun (2012), Özdemir and Dil (2013), similar results were found while different results were determined in the studies carried out by Demircioğlu and Özdemir (2014). The study performed by Valentin (2006), it was also found that prospective teachers’ attitudes toward cultural differences differ in terms of gender.

In addition, the effect of grades on critical thinking dispositions of prospective teachers and their attitudes toward multicultural education was also investigated. While critical thinking dispositions of prospective teachers do not show a significant difference related to grades, it differs in terms of their attitudes toward multicultural education. The fact that critical thinking dispositions of prospective teachers do not significantly differ in terms of grade is a remarkable result of this study. The emergence of a difference in favor of the prospective teachers at 4th class is an expected result within the scope of the study as they are familiar with critical thinking because of the courses they have taken at 4th class. Relevant to this fact mentioned above, it is considered that prospective teachers will tend to use critical thinking skills and their willingness for critical thinking is likely to increase. Still, a different result was obtained from this study. Within the context of teacher educa-



tion programs, the lack of a course on critical thinking might lead to the emergence of such results. When literature was reviewed, it was proved that there are various studies which do or do not support this result. In the studies which were carried out by Shin, Lee, Ha and Kin (2006), Kartal (2012), and Profetto-McGrath (2003), there is a significant difference in terms of grade; however, it was not found a significant difference based upon class-level variable by Ekinçi and Aybek (2010), Piji-Küçük and Uzun (2013) and Ay and Akgöl (2008). Taking into account the courses and their contents in the faculty of education, prospective teachers' attitude toward multicultural education is expected to increase as the class level increases. As a result of the study, the emergence of a significant difference in favor of prospective teachers studying at the fourth grade is an expected result. Correspondingly, it can be emphasized that as the class level of prospective teachers increases, their attitudes toward multicultural education develop positively. In fact, the study conducted by Yılmaz and Göçen (2013) illustrated that prospective teachers' views on intercultural sensitivity differ significantly depending on the grade level, which supports the result of this study.

In other respects, another variable analyzed for the effect of which on critical thinking and attitudes toward multicultural education is department. It was revealed that prospective teachers' critical thinking dispositions and their attitudes toward multicultural education show no significant difference in terms of departments. It is a striking result of our study as it is an expectable that prospective teachers' critical thinking dispositions and their attitudes toward multicultural education differ based upon departments. However, a different result was obtained in this study. The prospective teachers' critical thinking dispositions and their attitudes toward multicultural education showed no significant difference in terms of departments. This may be due to the fact that the levels and entry scores of students are almost the same. Additionally, they have similar cultural characteristics, which lead to the emergence of such a result. Ekinçi and Aybek (2010) and Korkmaz (2009) found that prospective teachers' critical thinking dispositions do not differ significantly in terms of departments; nevertheless, Emir (2012), Gülveren (2007), and Ricketts and Rudd (2005) determined that critical thinking dispositions differ depending on departments. The studies conducted by Tortop (2014) and Yazıcı, Başol and Toprak (2009) indicated that prospective teachers' attitudes toward multicultural education do not differ significantly in terms of departments. These results support our findings.

Further, it was investigated whether there is a significant relationship between the scores of prospective teachers' critical thinking dispositions and their attitude toward multicultural

education or not. It was found that there is a positive, low-level (Sungur, 2014) significant correlation between prospective teachers' critical thinking dispositions and their attitude toward multicultural education. Multicultural education should be performed without any bias. In addition, multicultural education aims to have individuals gain different perspectives and nurture democratic individuals (Banks, 2008; Gay, 2004; Wilson, 2012). Individuals having critical thinking skills should not be prejudiced and have different perspectives. They also need to have the critical thinking skills to be a democratic society. Therefore, it is true that there is a relationship between multicultural education and critical thinking. In the present study, it was determined that there is a positive relationship at low level between critical thinking disposition and attitudes toward multicultural education. The emergence of a significant difference between critical thinking disposition and attitudes toward multicultural education is an expected result. To illustrate, it was stated by Bohn and Sleeter (2000) that critical thinking skills also develop in schools where multicultural education is implemented.

One of the ways to investigate the relationship between critical thinking disposition and attitudes toward multicultural education is to examine whether the subscales of prospective teachers' critical thinking dispositions such as engagement, cognitive maturity and innovativeness predict their attitudes toward multicultural education or not. Hence, it was found that engagement, cognitive maturity and innovativeness variables have a significant relationship with attitudes toward multicultural education. These three variables together explain about 10% of the attitudes toward multicultural education. Therefore, the order of importance of the predictor variables on attitudes toward multicultural education is as such: innovativeness, cognitive maturity and engagement. It was clarified that cognitive maturity and innovativeness, as the predictor variables, were found to be significant predictors of attitudes toward multicultural education. Being aware of the bias in the decision making process, trying to organize their opinions and ideas influenced by the experience of people around them, and thinking about them objectively while making decisions or solving problem (Demircioğlu, 2012) can be said to increase the attitudes of the prospective teachers, who are at the cognitive maturity level, towards multicultural education. Likewise, the fact that prospective teachers, who are at the innovation level, are much more aware of their lives and the world, and they have intellectual curiosity in order to explore further knowledge during new struggles, research, reading and questioning (Demircioğlu, 2012) accounts for the increase in their attitudes towards multicultural education.



Conclusion

The results of the study indicate that prospective teachers express their opinions as “agree” in the scales regarding critical thinking dispositions and their attitudes toward multicultural education. While critical thinking dispositions of the prospective teachers differ significantly in terms of gender, it does not significantly differ depending upon grade and department. Their attitudes toward multicultural education show no significant difference in terms of gender whereas the attitudes differ significantly depending on grade. It was determined that there is a significant positive relationship at low level between the scores of critical thinking dispositions of prospective teachers and their attitudes toward multicultural education.

Recommendations

The following recommendations were developed based on the research results:

- Performing activities based on critical thinking and multicultural education in the education faculties; in other words, presenting context-based critical thinking and multicultural education will positively affect prospective teachers' critical thinking skills development and their attitudes towards multicultural education.
- Experimental and qualitative researches on critical thinking and multicultural education through using different data collection instruments will contribute to the literature.
- Prospective teachers' critical thinking dispositions and their attitude toward multicultural education may be examined with different variables.

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