

The Critical Thinking Skills of Teacher Candidates Turkish Republic of Northern Cyprus Sampling

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Abstract

Problem Statement: The main function of education is to prepare individuals for life. In this context, education aims to equip individuals throughout the different stages of education, where most of the time individuals learn how they should behave, as well as how to manage problems with effective problem-solving and critical thinking skills. The educational process used to develop critical thinking in teacher candidates is known to be important for the preparation of educational environments; many studies have identified that a large proportion of what teachers teach is what they have learned (Beşoluk & Önder, 2010). Therefore, it is important to determine trends in the development of teaching candidates' critical thinking skills and to address these features in the process of teaching and learning.

Purpose of Study: The purpose of this study is to analyze the level of teacher candidates' critical thinking skills and to determine whether there is a significant difference in their critical thinking skills in terms of teacher candidates' institutions, gender, and class, and their frequency of reading humor magazines.

Methods: The present research used a descriptive kind of general survey model with a quantitative method. Widely used, the descriptive approach aims to identify the condition of interest. Survey models refer to research approaches that aim to describe past or existing situations. The situation, event, individual, or object related to the study is used to determine their terms (Karasar, 2009).

Findings and Results: As a result of the study, it was found that teacher candidates' critical thinking skills displayed significant differences in sensibility of critical thinking skills, consciousness, empathy, adoption,

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and assumptions in terms of their institutions; and in sensibility, consciousness, empathy, adoption, critical thinking about media and critical thinking skills in terms of gender; however, there was no significant difference found in assumptions in critical thinking and common sense in critical thinking. In general, the findings show that female teacher candidates' critical thinking skills are at a higher level than those of male teacher candidates.

Conclusion and Recommendations: Analyzing the results of the article with the results of the available research, first-year candidates' critical thinking skills are at a very low level, and critical thinking skills increase as candidates progress in upper classes and semesters.

On the basis of the results of this study, the following recommendation for future research can be made: All teacher-training institutions can provide required or elective courses to be added to their programs for training teacher candidates who are currently enrolled with "medium" levels of critical thinking skills and those in their first-year classes with the lowest level, considering the fact that there is a gradual increase in such skills in the upper classes.

Keywords: teacher training academy, education faculty, teacher candidates, critical thinking skills

Critical thinking as the idea of positively affecting critical thinking capacities of education and students makes the structure mandatory by enhancing critical thinking power in curriculum programs and the formation of educational programs that support critical thinking (Kökdemir, 2003, Lauder & James, 2001; Sengul & Üstündağ, 2010). Possessing the power of critical thinking in all application-based occupations is of great importance in providing adaptations to change and to new developments in making rational decisions (Carroll-Johnson, 2001). The importance of critical thinking in teaching environments and the role of teachers' skills in the development of critical thinking are indisputable. For this reason, there have been various studies conducted with teachers and prospective teachers in the literature on this subject (Balım, 2009; Çubukçu, 2006; Cetin, 2008; Demir, 2006; Ekinci & Aybek, 2010; Gülveren, 2007; Korkmaz, 2009-a; Meral & Semerci, 2009; Narin 2009; Narin & Aybek, 2010, Saçlı & Demirhan, 2008; Sen, 2009; Türnüklü & Yesildere, 2005). For example, Erkin (2002), as a result of a study that aimed to identify teachers' perceptions about educational thinking, determined that teachers give the least importance to critical thinking. The theoretical basis of critical thinking is formed by philosophical approaches in terms of cognitive and thinking processes. Components that make up the essence of critical thinking are expressed as analyzing, interpreting, self-regulation, inference, explanation, and evaluation (Facione, 1998). It is the assessment of higher-order thinking skills, critical thinking, creative thinking, analytical thinking, reflective thinking, and problem-solving skills and indicates the need to teach creative thinking skills and critical thinking skills in particular as part of these higher-order skills (Üstünoğlu, 2006). Critical thinking is defined as a set of

skills used by individuals to simply take responsibility and be responsible for thinking (Elder & Paul, 1994). Individuals who lack critical thinking skills are not able to distinguish what they do and why. When they become aware of and are faced with conflicting thoughts, they seek ways to silence those who defend that idea. They don't feel the need to innovate themselves. They stay in certain patterns. These people cannot be truly constructive and creative (Özden, 2005). According to Beyer (1991), effective and critically thinking individuals continue to be doubtful about judgments until evidence is found; express a question, problem, or claim in a flawless way; don't act without thinking; and are willing to create thoughtful research and present reasons and evidence supporting the allegations set forth. These individuals acquire and evaluate knowledge on their own, which is one of the fundamental conditions of production and development (Çetinkaya, 2011). Therefore, the need for regulation to develop critical thinking skills in learning and teaching environments has emerged. The teaching field is seen as one of the most important and effective factors in meeting this need. According to Seferoğlu and Akbıyık (2006), teachers who adopt critical thinking express a contribution to students' cognitive development and boost attitudes towards critical thinking in a positive direction. According to Şahinel (2002), teachers adopting the approach of critical thinking for their students identify the usefulness of such higher-order thinking skills as analysis, synthesis, and evaluation.

The educational process to develop critical thinking dispositions of teacher candidates is known to be important for the preparation of educational environments. Many studies have identified that a large proportion of what teachers teach is what they themselves were taught (Beşoluk & Önder, 2010). Therefore, it is important to determine trends in teacher candidates' critical thinking skills and inform these features in the process of teaching and learning. From this point, critical thinking skills, cultural awareness through humor, and the individual's positive attainment of the learning environment is indicated (Aydın, 2006). Therefore, this study is aimed at determining the level of teacher candidates' critical thinking skills and identifying skills in terms of institutions, gender, class, and candidates' frequency of reading humor magazines.

Purpose of the Study

Based on the purpose of this study, answers to the following questions are investigated:

1. What is the level of teacher candidates' critical thinking skills?
2. Is there any difference in terms of which educational institution a teacher candidate is attending?
3. Is there any difference in terms of a teacher candidate's gender?
4. Is there any difference in terms of the class that a teacher candidate is attending?
5. Is there any difference in terms of the teacher candidate's frequency of reading humor magazines?

Method

Research Design

The present research used a descriptive kind of general survey model with a quantitative method. Widely used, the descriptive approach aims to identify the condition of interest. Survey models refer to research approaches that aim to describe past or existing situations. The situation, event, individual, or object related to the study is used to determine their own terms (Karasar, 2009).

Research Sample

Teacher candidates attending the Education Faculty at Atatürk Teacher Academy in Turkish Republic of Northern Cyprus were chosen as the population for this research study. The sample of this study is based on a convenient sample method of a total 512 teacher candidates, 22.9% attending Atatürk Teacher Academy and 77.1% attending the Education Faculty of a private university in TRNC. This study collected data from 64 female and 53 male teacher candidates attending Atatürk Teachers Academy Preschool (n=57) and classroom teachers (n=60), 252 female and 143 male teacher candidates attending the Faculty of Education in Early Childhood (n=97), a classroom (n=49) at a private university in TRNC, Guidance and Psychological Counselling (n=95), Turkish (n=70), and Mentally Handicapped (n=84) Teaching Departments. Volunteer students attending the lesson on the day and at the time of administration were included in the sample of this study. Demographic information for the teacher candidates within the scope of the research is given in Table 1.

Table 1
Demographic Information of Participants

<i>Independent Variables</i>	<i>Atatürk Teachers Academy n (%)</i>	<i>Faculty of Education n (%)</i>	<i>TOTAL n (%)</i>
Female	64 (54,7)	252 (63,8)	316 (61,7)
Male	53 (45,3)	143 (36,2)	196 (38,3)
Preschool Teaching	57 (48,7)	97 (24,6)	154 (30,1)
Classroom Teaching	60 (51,3)	49 (12,4)	109 (21,3)
GPC	*	95 (24,1)	95 (18,6)
Turkish Teaching	*	70 (17,7)	70 (13,7)
MHT	*	84 (21,3)	84 (16,4)
1. Class	18 (15,4)	139 (35,2)	157 (30,7)
2. Class	34 (29,1)	141 (35,7)	175 (34,2)
3. Class	36 (30,8)	60 (15,2)	96 (18,8)
4. Class	29 (24,8)	55 (13,9)	84 (16,4)
Total	117 (22,9)	395 (77,1)	512 (100,0)

CP: Guidance and Psychological Counselling, MHT: Mentally Handicapped Teaching

Research Instruments

As a data collection instrument developed by Yoldaş (2009), Cronbach's alpha reliability coefficient of .87 with "Critical Thinking Skills Scale" was developed by the researcher and the "Personal Data Form" is used. The "Critical Thinking Skills Scale" of sensibility in critical thinking, consciousness in critical thinking, empathy in critical thinking, adoption in critical thinking, assumptions in critical thinking, common sense in critical thinking, and critical thinking skills in media has a total of 42 items and 7 sub-dimensions; 45.14% of the total variance out of 7 sub-factors is explained. In this study, the Cronbach's alpha reliability coefficient was calculated as 0.80. The range score of the scale is between 42 and 210. The average scores for the critical thinking skills scale are as follows: low scores (\bar{x} =42-98), moderate (\bar{x} =99-154), and high (\bar{x} =155-210) defined as a 3-point range. Higher scores indicate positive critical thinking skills; lower scores indicate negative critical thinking skills.

Data Analysis

The data obtained were analyzed with the software program SPSS version 16.0. Based on the purpose of this study, in the analysis sub-dimension scores were calculated; binary comparisons of "t-test for independent samples" were used to determine whether a significant difference between groups exists; and F-test was used for multiple comparisons. Scheffé's test was applied to identify from which groups particular significant differences between the variables result when F-test reveals significant differences. The level of significance was set as .05 in this research.

Results

What is the level of Teacher Candidates' Critical Thinking Skills?

Descriptive statistics related to critical thinking skills of teacher candidates attending Atatürk Teachers Academy and the Faculty of Education are given in Table 2. As Table 2 illustrates, in both of the educational institutions, the level of teacher candidates' critical thinking skills in general is found to be "intermediate."

Table 2

Statistics Related to the Average Scores for Critical Thinking Skills of Teacher Candidates Attending Atatürk Teacher Training Academy and the Faculty of Education Teacher, According to Reading

Critical Thinking	Atatürk Teacher Academy				Education Faculty			
	n	Mean	SD	Range	n	Mean	SD	Range
Sensibility		34,812	3,787	26-45		36,397	4,730	21-45
Consciousness		38,931	6,950	18-54		33,270	7,368	11-51
Empathy	117	19,333	3,156	8-24	395	20,215	3,211	7-25
Adoption		19,871	4,186	10-30		18,873	4,964	6-30
Assumptions		14,017	2,690	5-20		15,083	2,520	6-20
Common Sense		15,692	2,010	8-20		16,101	2,538	5-20
C. T. S. M.*		6,880	1,857	3-13		6,681	2,181	3-13
Total		149,538	14,700	115-187		146,622	15,602	108-190

*C. T. S. M.: Critical Thinking Skills of the Media

Is there any variance in terms of the educational institution in the level of teacher candidates' critical thinking skills?

The t-test results related to the scores obtained in each sub-scale of the critical thinking skills of teacher candidates attending the Faculty of Education and teacher candidates attending Atatürk Teachers Academy are shown in Table 3. Table 3 shows significant differences in the t-test results related to total scores of critical thinking skills in 7 sub-dimensions of teacher candidates attending the Faculty of Education and Atatürk Teachers Academy: sensibility in critical thinking ($t_{510}=3,323$; $p<0,05$), empathy ($t_{510}=2,619$; $p<0,05$), and assumptions ($t_{510}=3,958$; $p<0,05$) subscales of students' critical thinking, education faculty students' in critical thinking, consciousness ($t_{510}=7,392$; $p<0,05$,) and adoption ($t_{510}=1,977$; $p<0,05$) subscales of the students in the academy. Common sense in critical thinking, critical thinking of the media, and significant differences in total scores were obtained.

Table 3

Descriptive Statistics and t-Test Results Related to the Average Point in Critical Thinking Skills of Teacher Candidates Attending the Faculty of Education and Atatürk Teachers Academy

Critical Thinking	Educational Institution	n	Mean	SD	$t_{(sd=510)}$	P	η^2																																																																																
Sensibility	Teaching Academy	117	34,81	3,78	3,323	0,001*	0,021																																																																																
	Education Faculty	395	36,39	4,73				Consciousness	Teaching Academy	117	38,93	6,95	7,392	0,000*	0,096	Education Faculty	395	33,27	7,36	Empathy	Teaching Academy	117	19,33	3,15	2,619	0,009*	0,013	Education Faculty	395	20,21	3,21	Adoption	Teaching Academy	117	19,87	4,18	1,977	0,049*	0,007	Education Faculty	395	18,87	4,96	Assumptions	Teaching Academy	117	14,01	2,69	3,958	0,000*	0,029	Education Faculty	395	15,08	2,52	Common Sense	Teaching Academy	117	15,69	2,01	1,600	0,110	0,004	Education Faculty	395	16,10	2,53	C. T. S. M.	Teaching Academy	117	6,88	1,85	0,896	0,370	0,001	Education Faculty	395	6,68	2,18	Teaching Academy	117	149,53	14,70	Total	Education Faculty	395	146,62
Consciousness	Teaching Academy	117	38,93	6,95	7,392	0,000*	0,096																																																																																
	Education Faculty	395	33,27	7,36				Empathy	Teaching Academy	117	19,33	3,15	2,619	0,009*	0,013	Education Faculty	395	20,21	3,21	Adoption	Teaching Academy	117	19,87	4,18	1,977	0,049*	0,007	Education Faculty	395	18,87	4,96	Assumptions	Teaching Academy	117	14,01	2,69	3,958	0,000*	0,029	Education Faculty	395	15,08	2,52	Common Sense	Teaching Academy	117	15,69	2,01	1,600	0,110	0,004	Education Faculty	395	16,10	2,53	C. T. S. M.	Teaching Academy	117	6,88	1,85	0,896	0,370	0,001	Education Faculty	395	6,68	2,18		Teaching Academy	117	149,53	14,70				Total	Education Faculty	395	146,62	15,602	1,799	0,073	0,006				
Empathy	Teaching Academy	117	19,33	3,15	2,619	0,009*	0,013																																																																																
	Education Faculty	395	20,21	3,21				Adoption	Teaching Academy	117	19,87	4,18	1,977	0,049*	0,007	Education Faculty	395	18,87	4,96	Assumptions	Teaching Academy	117	14,01	2,69	3,958	0,000*	0,029	Education Faculty	395	15,08	2,52	Common Sense	Teaching Academy	117	15,69	2,01	1,600	0,110	0,004	Education Faculty	395	16,10	2,53	C. T. S. M.	Teaching Academy	117	6,88	1,85	0,896	0,370	0,001	Education Faculty	395	6,68	2,18		Teaching Academy	117	149,53	14,70				Total	Education Faculty	395	146,62	15,602	1,799	0,073	0,006																
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* $p<0,05$; C. T. S. M.: Critical Thinking Skills of the Media

Is there any variance in terms of gender in the level of teacher candidates' critical thinking skills?

Table 4 illustrates the results obtained from t-test analysis of whether there is a difference in teacher candidates' critical thinking skills level according to their gender. Examining p value in Table 4, according to the variable regardless of gender,

sensibility in critical thinking ($t_{510}=2,171$; $p<0,05$), consciousness ($t_{510}=2,384$; $p<0,05$), empathy ($t_{510}=4,093$; $p<0,05$), adoption ($t_{510}=3,847$; $p<0,05$), critical thinking skills of the media ($t_{510}=2,484$; $p<0,05$) subscales and the total obtained from the critical thinking skills ($t_{510}=4,249$; $p<0,05$) scores differed significantly in favor of female teachers.

Table 4

Descriptive Statistics and t-Test Results Related to the Average Point of Critical Thinking Skills Level of Teacher Candidates in Terms of Gender Differences

Critical Thinking	Gender	n	Mean	SD	t ($_{sd=510}$)	p	Eta Square																																																																																
Sensibility	Female	316	36,379	4,423	2,171	0,030*	0,009																																																																																
	Male	196	35,479	4,774				Consciousness	Female	316	35,196	7,834	2,384	0,017*	0,011	Male	196	33,545	7,239	Empathy	Female	316	20,465	2,998	4,093	0,000*	0,031	Male	196	19,285	3,426	Adoption	Female	316	19,737	4,632	3,847	0,000*	0,028	Male	196	18,076	4,930	Assumptions	Female	316	14,718	2,519	1,345	0,179	0,003	Male	196	15,035	2,710	Common Sense	Female	316	16,129	2,354	1,442	0,150	0,004	Male	196	15,811	2,546	C. T. S. M	Female	316	6,908	2,097	2,484	0,013*	0,012	Male	196	6,433	2,107	Total	Female	316	149,534	15,662	4,249	0,000*	0,034
Consciousness	Female	316	35,196	7,834	2,384	0,017*	0,011																																																																																
	Male	196	33,545	7,239				Empathy	Female	316	20,465	2,998	4,093	0,000*	0,031	Male	196	19,285	3,426	Adoption	Female	316	19,737	4,632	3,847	0,000*	0,028	Male	196	18,076	4,930	Assumptions	Female	316	14,718	2,519	1,345	0,179	0,003	Male	196	15,035	2,710	Common Sense	Female	316	16,129	2,354	1,442	0,150	0,004	Male	196	15,811	2,546	C. T. S. M	Female	316	6,908	2,097	2,484	0,013*	0,012	Male	196	6,433	2,107	Total	Female	316	149,534	15,662	4,249	0,000*	0,034	Male	196	143,668	14,378								
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* $p<0,05$; C. T. S. M.: Critical Thinking Skills of the Media

Is there any variance in the level of teacher candidates' critical thinking skills in terms of the class being attended?

Critical thinking skill levels of teacher candidates were analyzed using one-way analysis of variance (ANOVA); the results in Table 5 are given according to the class attended by teacher candidates. Descriptive statistics of critical thinking skills according to the attending class of teacher candidates, "consciousness in critical thinking" 1. class $\bar{x}=31,898\pm 3,073$; 2. class $\bar{x}=36,045\pm 7,689$; 3. class $\bar{x}=35,000\pm 7,525$; 4. class $\bar{x}=35,964\pm 8,180$; "empathy in critical thinking" 1. class $\bar{x}=19,248\pm 6,689$; 2. class $\bar{x}=20,474\pm 2,955$; 3. class $\bar{x}=20,375\pm 3,598$; 4. class $\bar{x}=20,071\pm 3,339$. "adoption in critical thinking" 1. class $\bar{x}=18,273\pm 4,480$; 2. class $\bar{x}=19,754\pm 5,130$; 3. class $\bar{x}=18,927\pm 4,875$; 4. class $\bar{x}=19,488\pm 4,481$. "Total of Critical thinking skills" 1. class $\bar{x}=142,59\pm 13,54$; 2. class $\bar{x}=150,57\pm 16,74$; 3. class $\bar{x}=147,27\pm 14,38$; 4. class $\bar{x}=149,23\pm 15,13$. When examining arithmetic averages, according to the independent variables of classes related to

critical thinking skills, the first-year classes were shown to have the lowest levels. According to classes attended by teacher candidates, significant differences between the mean scores of sub-dimensions of critical thinking skills were statistically detected in "consciousness in critical thinking" ($F_{(3,508)}=10,105$; $p<0,05$), "empathy in critical thinking" ($F_{(3,508)}=4,666$; $p<0,05$), "adoption in critical thinking" ($F_{(3,508)}=2,875$; $p<0,05$), "critical thinking of the media" ($F_{(3,508)}=3,108$; $p<0,05$), and "total critical thinking skills" ($F_{(3,508)}=8,278$; $p<0,05$).

Table 5

ANOVA Results Related to the Grade-Point Average of Critical Thinking Skill Levels in Terms of the Class Attended by Teacher Candidates

Critical Thinking	Variance	Sum of Squares	sd	Mean Squares	F	p	Eta square	Sig. Dif.
Sensibility	Between the groups	158,649	3	52,883	2,547	,055	0,014	-
	Within the groups	10548,719	508	20,765				
	Total	10707,367	511					
Consciousness	Between the groups	1682,976	3	560,992	10,105	,000*	0,056	1-2**
	Within the groups	28202,897	508	55,518				1-3**
	Total	29885,873	511					1-4**
Empathy	Between the groups	141,886	3	47,295	4,666	,003*	0,027	1-2**
	Within the groups	5149,018	508	10,136				
	Total	5290,904	511					
Adoption	Between the groups	197,584	3	65,861	2,875	,036*	0,017	1-2**
	Within the groups	11637,135	508	22,908				
	Total	11834,719	511					
Assumptions	Between the groups	3,045	3	1,015	0,150	,930	0,001	-
	Within the groups	3441,822	508	6,775				
	Total	3444,867	511					
Common Sense	Between the groups	25,550	3	8,517	1,444	,229	0,008	-
	Within the groups	2996,419	508	5,898				
	Total	3021,969	511					
C. T. S. M.	Between the groups	41,094	3	13,698	3,108	,026*	0,018	1-2**
	Within the groups	2238,625	508	4,407				
	Total	2279,719	511					
Total	Between the groups	5674,403	3	1891,468	8,278	,000*	0,046	1-2*
	Within the groups	116076,816	508	228,498				1-4*
	Total	121751,219	511					

* $p < 0,05$; C. T. S. M.: Critical Thinking Skills of the Media

As a result of Scheffe's test of significance, which was conducted to identify groups that have caused differences, the "consciousness" difference was detected to be due to the first-class teacher candidates. This differentiation is in favor of the second-, third-, and fourth-class teacher candidates. The "empathy" and "acceptance" sub-dimensions of differentiation resulted from the first class and second class of teacher candidates. This differentiation is in favor of the second-year class teacher candidates. "Media-oriented critical thinking," a sub-dimension of differentiation, resulted from the first class and second class of teacher candidates. This differentiation is in favor of the first class of teacher candidates. "Critical thinking skills" resulted from teacher candidates in the first class with the second class and the first class with the fourth class in the total average point of differentiation. This differentiation is in favor of the second- and fourth-class teacher candidates.

Is there any Variance in terms of the frequency of reading humor magazines in the level of Teacher Candidates' Critical Thinking Skill?

Descriptive statistics related to critical thinking skills of teacher candidates' in terms of the frequency of reading humor magazines: "Critical thinking sensibility," very much $\bar{x}=36,638+3,994$; fairly $\bar{x}=36,541+4,620$; very little $\bar{x}=35,661+4,682$; none $\bar{x}=34,761+4,675$. "Critical thinking empathy," very much $\bar{x}=20,563+2,508$; fairly $\bar{x}=20,556+3,304$; very little $\bar{x}=19,889+2,826$; none $\bar{x}=18,352+3,651$. "Critical thinking adoption," very much $\bar{x}=18,808+4,631$; fairly $\bar{x}=19,911+4,896$; very little $\bar{x}=17,858+4,341$; none $\bar{x}=19,340+5,119$. "Critical thinking common sense," very much $\bar{x}=16,468+2,009$; fairly $\bar{x}=16,162+2,352$; very little $\bar{x}=15,606+2,726$; none $\bar{x}=15,738+2,493$. "Total of Critical thinking skills," very much $\bar{x}=148,77+13,22$; fairly $\bar{x}=150,09+16,04$; very little $\bar{x}=143,99+15,00$; none $\bar{x}=144,24+15,58$. When arithmetic averages are examined in terms of critical thinking skills according to the variable of frequency of reading humor magazines, those teacher candidates who indicated that they do not read any humor magazines are seen at the lowest level. Critical thinking skills levels in terms of the frequency of reading humor magazines were analyzed by one-way analysis of variance (ANOVA); the results related to the frequency of reading humor magazines are given in Table 6.

Table 6
ANOVA Results Related to the Grade Point Average of the Critical Thinking Skills Level of Teacher Candidates in Terms of the Frequency of Reading Humor Magazines

Critical Thinking	Variance	Sum of squares	sd	Mean Squares	F	p	Eta square	Significance
Sensibility	Between the groups	246,841	3	82,280	3,996	0,008*	0,023	4-2**
	Within the groups	10460,526	508	20,592				
	Total	10707,367	511					
Consciousness	Between the groups	445,206	3	148,402	2,561	0,054	0,014	-
	Within the groups	29440,667	508	57,954				
	Total	29885,873	511					
Empathy	Between the groups	333,153	3	111,051	11,379	0,000*	0,062	4-1**
	Within the groups	4957,752	508	9,759				4-2**
	Total	5290,904	511					4-3**
Adoption	Between the groups	342,540	3	114,180	5,047	0,002*	0,029	3-2**
	Within the groups	11492,19	508	22,622				
	Total	11834,719	511					
Assumptions	Between the groups	39,298	3	13,099	1,954	0,120	0,011	-
	Within the groups	3405,569	508	6,704				
	Total	3444,867	511					
Common Sense	Between the groups	51,625	3	17,208	2,943	0,033*	0,017	3-1**
	Within the groups	2970,343	508	5,847				4-1**
	Total	3021,969	511					3-2**
C. T. S. M	Between the groups	1,789	3	,596	0,133	0,940	0,001	-
	Within the groups	2277,929	508	4,484				
	Total	2279,719	511					
Total	Between the groups	4014,545	3	1338,182	5,774	0,001*	0,033	3-2**
	Within the groups	117736,674	508	231,765				4-2**
	Total	121751,219	511					

* p <0.05; C. T. S. M.: Critical Thinking Skills of the Media

According to teacher candidates' frequency of reading humor magazines, by sub-dimensions of critical thinking skills: "sensitivity" ($F_{(3,508)}=3,996$; $p<0,05$) and "empathy" ($F_{(3,508)}=11,379$; $p<0,05$), "adoption" ($F_{(3,508)}=5,047$; $p<0,05$), common sense ($F_{(3,508)}=2,943$; $p<0,05$), and "total critical thinking skills" ($F_{(3,508)}=5,774$; $p<0,05$) detected a statistically significant differentiation between the mean scores. Scheffé's significance test was conducted to identify groups that have caused differences. As a result, the sub-dimension of the "sensitivity" differentiation detected that teacher candidates reported that they "do not read at all" and "fairly often" in terms of reading humor magazines. This difference is in favor of teacher candidates who expressed that they read humor magazines "fairly often." It was detected that teacher candidates do not read humor magazines at all under the sub-dimension of "Empathy." This difference is in favor of teacher candidates expressing very little, fairly, and very much in terms of reading humor magazines. It was detected that teacher candidates expressed "too little" and "fairly" reading humor magazines under the sub-dimension of "Adoption." This difference is in favor of teacher candidates who expressed reading humor magazines "fairly often." It was detected that teacher candidates expressed "too much" and "too little," "too much" and "none at all," "fairly," and "too little" in terms of reading humor magazines under the sub-dimension of "Common sense." This difference is in favor of teacher candidates expressing "too much" and "fairly" for reading humor magazines. For variations in the total score of "Critical thinking skills," it was detected teacher candidate express reading humor magazines in "fairly" and "too little"; "too much" and "too little" manner. This difference is in favor of teacher candidates expressing "fairly" and "too much" in terms of reading humor magazines.

Discussion and Conclusion

On the whole, the results of the study revealed that the level of critical thinking skills of teacher candidates of both educational institutions is at an "intermediate" level. The results of the research that did not contribute to the development of critical thinking skills of teacher candidates in the faculty of education and teacher training academy parallel the results of the research by Beşoluk & Önder (2010), focused on the view that teacher candidates with an intermediate level of critical thinking skills will graduate. Therefore, as a general conclusion, it can be said that teacher candidates' critical thinking skills need to be developed. According to the educational institution attended by teacher candidates, critical thinking sensitivity, critical thinking empathy, and critical thinking assumptions, in terms of teacher candidates in education faculty, and critical thinking consciousness and adoption were found to have significant differences. The results show that there was a significant difference in sensitivity in critical thinking, consciousness in critical thinking, empathy in critical thinking, adoption in critical thinking, critical thinking of the media, and total score of critical thinking skills in terms of teacher candidates' gender; however, there was no significant difference found in assumptions in critical thinking and common sense in critical thinking.

In general, the findings show that female teacher candidates' critical thinking skills are at a higher level than those of male teacher candidates; this parallels the

results of the work done by Beşoluk & Önder (2010), Çetinkaya (2011), Çubukçu (2006), Facione, Giancarlo, Facione, & Gainen (1995), Genç (2008), Güleç Çakmak (2010), Gülveren (2007), Kökdemir (2003), Rudd, Baker, & Hoover (2000), Tümkaya (2011), Yıldırım (2005), and Zayıf (2008). However, the studies by Aral (2005), Bozpolat (2010), Çetin (2008), Ekinci & Aybek (2010), Kaloç (2005), Korkmaz (2009-a), Korkmaz (2009-b), Kürüm (2002), Narin (2009), Narin & Aybek (2010), Özdemir (2005), Saçlı & Demirhan (2008), Şen (2009), and Tümkaya, Aybek, & Aldağ (2009) found no significant gender differences in terms of critical thinking skills. In a study with teacher candidates attending the TRNC Atatürk Teachers Academy and the Faculty of Education by Yıldızlar (2009), the results revealed that the male teacher candidates have a tendency towards "conservative thinking" and "introverted" thinking. The reason for male teacher candidates having negative critical thinking skills is that females are more conservative and tend to have extroverted thinking.

According to the attending class of teacher candidates and critical thinking skills, significant differences were found in consciousness in critical thinking, empathy in critical thinking, adoption in critical thinking, and in total scores in critical thinking; however, no significant differences were found in assumptions in critical thinking skills and common sense in critical thinking. The finding of the study in attending class in critical thinking skills is parallel to and supports the results of studies conducted by Beşoluk & Önder (2010), Çetin (2008), Ekinci & Aybek (2010), Grosser & Lombard (2008), Güleç Çakmak (2010), Gülveren (2007), Korkmaz (2009 a), Kürüm (2002), Öztürk & Ulusoy (2008), Saçlı & Demirhan (2008), Shin, Lee, Ha, & Kim (2006), Şenturan & Alpar (2008), and Zayıf (2008). Analyzing the results of the articles with the results of the available research, the first-year candidates' critical thinking skills are at a very low level and the critical thinking skills in the upper classes increase in upper semesters. According to teacher candidates' frequency of reading humor magazines, statistically significant differences between mean scores were revealed in sensibility in critical thinking, empathy in critical thinking, adoption in critical thinking, common sense in critical thinking, and total critical thinking skills. Humor magazines require cultural knowledge, critical reading, and critical thinking skills.

Other than the actual meaning of many concerns in humor magazines, such reading requires knowledge about the cultural life of the society and social thought. The messages of these writings are not as clear and direct as in other types of writing and therefore such reading involves evaluative thinking processes. The critical thinking skills of teacher candidates who read humor magazines fairly often or frequently compared to teacher candidates who don't read humor magazines at all display a significant result, revealing the usefulness of reading humor magazines for favorable outcomes in educational settings.

On the basis of the results of this study the following recommendations for future research can be made: 1. All teacher-training institutions can provide required or elective courses to add to the program for training teacher candidates who are currently enrolled in both educational institutions with a "medium" level of critical thinking skills and those who are in their first-year class with the lowest level, considering the fact that there is a gradual increase towards the upper classes. 2.

Factors of differences in critical thinking can be determined by comparing the teaching/learning programs of educational institutions that teacher candidates are attending. 3. Qualitative research can be conducted in order to determine the factors involved in female teacher candidates having higher critical thinking skills compared to male teacher candidates. 4. Teacher candidates can be encouraged to read humor magazines by organizing extracurricular activities in and out of classes. 5. Instructors can recommend books to teacher candidates that will guide them in acquiring critical thinking skills. 6. Educational programs that enhance teacher candidates' problem-solving skills can be applied, considering that problem-solving skills are a major dimension of critical thinking skills. 7. Teacher candidates' critical thinking skills can be compared by measuring the relationships between them and the course instructors' critical thinking skills. 8. Similar studies can be carried out at different colleges and universities.

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Öğretmen Adaylarının Eleştirel Düşünme Becerileri (Kuzey Kıbrıs Örneği)

Atıf:

- Serin, O. (2013). The critical thinking skills of teacher candidates. Turkish Republic of Northern Cyprus sampling. *Eğitim Araştırmaları-Eurasian Journal of Educational Research*, 53, 231-248.

Özet

Problem Durumu: Eğitimin temel fonksiyonu bireyleri hayata hazırlamaktır. Bu bağlamda eğitim, bireylerin zorunlu olarak geçtikleri eğitim aşamalarında, çoğu zaman bireylere nerede nasıl davranmaları gerektiğinin yanı sıra onları yaşadıkları sorunları karşısında etkili problem çözme ve eleştirel düşünme becerileri ile donatmayı amaçlamaktadır. Eğitim-öğretim sürecinde öğretmen adaylarının eleştirel düşünme eğilimlerini geliştirmeye yönelik eğitim ortamlarının hazırlanmasının önemli olduğu bilinmesine rağmen, yapılan birçok araştırmada öğretmenlerin büyük bir bölümünün kendi öğrendikleri gibi öğrettikleri belirlenmiştir (Beşoluk ve Önder, 2010). Dolayısıyla öğretmen adaylarının eleştirel düşünme eğilimlerinin belirlenmesi ve bu özelliklerin eğitim öğretim sürecindeki yeri hakkında bilgilendirilmesi önemli görülmektedir. Bu noktadan hareketle eleştirel düşünme becerisi, kültürel farkındalık becerisi ve mizah aracılığıyla bireyin olumlu bir öğrenme ortamına kavuşabileceği belirtilmektedir (Aydın, 2006).

Araştırmanın Amacı: Araştırmanın amacı, öğretmen adaylarının eleştirel düşünme becerilerinin ne düzeyde olduğunu saptama ve eleştirel düşünme becerilerinin öğrenim gördükleri kurum, cinsiyet, sınıf düzeyi ve mizah dergisi okuma sıklığı değişkenlerine göre anlamlı farklılık gösterip göstermediğini saptamaktır.

Araştırmanın Yöntemi: Araştırma, betimsel türde genel tarama modelinde olup, nicel araştırma tekniği ile gerçekleştirilmiştir. Yaygın olarak kullanılan betimleyici yaklaşım, ilgilenilen durumu tanımlamayı amaçlamaktadır. Tarama modelleri geçmişte veya halen var olan bir durumu, var olduğu şekliyle betimlemeyi amaçlayan araştırma yaklaşımlarıdır. Araştırmaya konu olan durum, olay, birey ya da nesne, kendi koşulları içerisinde ve olduğu gibi tanımlanmaya çalışılır (Karasar, 2009). Araştırmada Kuzey Kıbrıs Türk Cumhuriyeti'nde bulunan Eğitim Fakülteleri ile Atatürk Öğretmen Akademisinde öğrenim gören öğretmen adayları araştırmanın çalışma evreni olarak seçilmiştir. % 22,9'u Atatürk Öğretmen Akademisi'nde (n=117), % 77,1'i KKTC'de özel bir üniversitenin eğitim fakültesinde öğrenim gören ve uygun örnekleme yöntemi ile belirlenen toplam 512 öğretmen adayı araştırma örneklemini oluşturmaktadır. Araştırma, Atatürk Öğretmen Akademisi Okulöncesi (n=57) ve Sınıf Öğretmenliği (n=60) bölümlerinde öğrenim gören 64 kız ve 53 erkek; KKTC'de özel bir üniversitenin Eğitim Fakültesi Okulöncesi (n=97), Sınıf (49), Rehberlik ve Psikolojik Danışmanlık (n=95), Türkçe (70), Zihin Engelliler (n=84) Öğretmenliği bölümlerinde öğrenim gören 252 kız ve 143 erkek öğretmen adayından toplanan verilerle yürütülmüştür. Uygulamanın yapıldığı gün ve saatte derslerde bulunan gönüllü öğrenciler araştırma örnekleminde yer almışlardır. Verilerin analizinde, araştırmanın amaçları doğrultusunda altboyut puanları hesaplanmış ve gruplar arasındaki farkın anlamlı olup olmadığını belirlemek için ikili karşılaştırmalarda "ilişkisiz örneklemler için t-testi", çoklu karşılaştırmalar için F-testi kullanılmıştır. F-testinde anlamlı farklılık bulunduğunda, değişkenler arasında belirlenen anlamlı farklılıkların hangi gruplardan kaynaklandığını belirlemek için Scheffe anlamlılık testi uygulanmıştır.

Araştırmanın Sonuçları ve Öneriler: Araştırma sonuçları genel olarak değerlendirildiğinde, öğretmen adaylarının öğrenim gördükleri eğitim kurumuna göre; eleştirel dü-

şünmede hassasiyet, eleştirel düşünmede empati, eleştirel düşünmede varsayımlar, eleştirel düşünmede bilinç ve eleştirel düşünmede kabullenme anlamlı bir farklılığın olduğu saptanmıştır. Öğretmen adaylarının öğrenim gördükleri eğitim kurumuna göre; eleştirel düşünmede hassasiyet, eleştirel düşünmede empati, eleştirel düşünmede varsayımlar alt boyutlarında eğitim fakültesi lehine; eleştirel düşünmede bilinç ve kabullenme alt boyutlarında ise akademi öğrencileri lehine anlamlı farklılaşmanın olduğu saptanmıştır. Öğretmen adaylarının cinsiyetlerine göre; eleştirel düşünmede hassasiyet, eleştirel düşünmede bilinç, eleştirel düşünmede empati, eleştirel düşünmede kabullenme, medyaya yönelik eleştirel düşünme ve toplam puanda eleştirel düşünme becerileri açısından anlamlı farklılıkların bulunduğu; eleştirel düşünmede varsayımlar ve eleştirel düşünmede sağduyu alt boyutlarında anlamlı bir farklılık bulunmadığı saptanmıştır. Öğretmen adaylarının eleştirel düşünme becerileri öğrenim gördükleri sınıfa göre, eleştirel düşünmede bilinç, eleştirel düşünmede empati, eleştirel düşünmede kabullenme, medyaya yönelik eleştirel düşünme ve toplam puanda eleştirel düşünme becerileri açısından anlamlı farklılıkların bulunduğu; eleştirel düşünmede varsayımlar ve eleştirel düşünmede sağduyu alt boyutlarında anlamlı bir farklılık bulunmadığı saptanmıştır. Öğretmen adaylarının mizah dergilerini okuma sıklığına göre, eleştirel düşünmede hassasiyet, eleştirel düşünmede empati, eleştirel düşünmede kabullenme, eleştirel düşünmede sağduyu ve toplam eleştirel düşünme becerisi puan ortalamaları arasında istatistiksel olarak anlamlı bir farklılaşmanın olduğu saptanmıştır. Mizah dergileri hem kültürel bilgiyi hem de eleştirel okuma ve eleştirel düşünme becerisini gerektiren yazılardır. Mizah dergilerinde anlatılanların çoğu gerçek anlamlarının dışında, toplum kültür yaşamı ile toplumsal düşünceye sahip olmayı gerektirir. Bu yazılarda verilen mesaj diğer anlatım türlerindeki gibi net, doğrudan değil, birtakım düşünme süreçlerinin değerlendirilmesi sonucu elde edilir. Mizah dergilerini oldukça veya çok fazla okuduklarını belirten öğretmen adaylarının eleştirel düşünme becerilerinin mizah dergilerini okumayan öğretmen adaylarına oranla daha olumlu olması mizah dergilerinin eğitim ortamlarındaki gerekliliğini ortaya koyması bakımından önemli bir sonuçtur. Bu çalışmanın sonuçlarından yola çıkılarak aşağıdaki araştırma önerileri sunulabilir: Her iki eğitim kurumunda öğrenim gören öğretmen adaylarının eleştirel düşünme becerilerinin “orta” düzeyde ve birinci sınıftaki eleştirel düşünme becerisinin en düşük seviyede olduğu, üst sınıflara doğru kademeli bir artışın olduğu gözönüne alındığında, öğretmen yetiştiren tüm kurumlarında eleştirel düşünme becerisini kazandıracak dersler seçmeli ya da zorunlu ders olarak programa eklenebilir. Öğretmen adaylarının öğrenim gördükleri eğitim kurumlarında verilen eğitim-öğretim programları karşılaştırılarak, eleştirel düşünmede farklılaşmaya neden olan faktörler belirlenebilir.

Anahtar Sözcükler: Öğretmen Akademisi, Eğitim Fakültesi, Öğretmen Adayı, Eleştirel Düşünme Becerisi.