

Critical Thinking Dispositions of Pre-service Turkish Language Teachers and Primary Teachers¹

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Abstract

The present study aimed to determine critical thinking dispositions of pre-service Turkish language and primary teachers in terms of several variables by employing descriptive survey design. The study group consisted of 215 senior students attending Turkish Language Teaching and Primary Education Departments of Necatibey Faculty of Education at Balikesir University in the 2012-2013 academic year. The data of the study was collected with The California Critical Thinking Disposition Inventory which was adapted to Turkish by K ökdemir (2003). The scale consisting of 6 sub-scales namely analyticity, open-mindedness, inquisitiveness, self-confidence, truth-seeking and systematicity has a reliability coefficient of 0.88. Coefficients of internal consistency for each subscale range between 0.61 and 0.78. The present study found the reliability of the scale as .85. The data were analyzed through descriptive statistics, t test and one way variance analysis. It was observed in the study that the pre-service teachers had medium levels of critical thinking dispositions and that the level did not vary by their department, gender, time spent watching TV while critical thinking disposition increased as the number of books read per year went up.

Keywords: critical thinking, reading, pre-service Turkish language teacher, pre-service primary teacher

1. Introduction

The concept of critical thinking was previously interpreted as logical thinking that aims to guide our behaviors through philosophy. Critical thinking, which was also accepted as defining events in a correct way, later came to be defined in a broader sense. The studies carried out finally defined critical thinking as “the individual’s evaluative and conscious judgment for deciding what to do and what to believe and expression of these judgments” (Euancho 2000:2; Akbıyık, 2002).

According to Ennis (1985), the primary and most important factor in teaching critical thinking skills is the teacher. Texts, workbooks that are designed, pre-organized plans can only be supplementary to instruction. However, they are insufficient in improving thinking skills alone.

The most efficient instruction is delivered by a teacher who is knowledgeable in the subject area and thinking processes, displays thinking skills and behaviors consistently, and who expects students to think systematically and carefully in writing and speaking activities. Therefore, well trained teachers have a particular role in teaching thinking skills (Akınođlu, 2001, 27).

Both of the Turkish Curriculums (Grades 1 to 5 and 6,7,8) developed by the Ministry of National Education aim at “educating individuals who can use Turkish accurately, well and effectively, think critically and creatively, attach importance to personal and social values etc.”. Setting off from the argument that “Language teaching is to some extent teaching how to think” these curriculums highlight thinking skills in a general sense and critical thinking in a more specific sense.

In the Turkish curriculums, which aim to develop students’ listening, speaking, reading, writing, visual reading and visual presentation skills and to use the rules of the language accurately and effectively while performing these skills, critical thinking is defined as one of the main skills and critical (questioning) reading, listening, speaking, writing methods are included in the methods designed to improve linguistic skills. According to the curriculums, the special

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field competencies specified by the Ministry of National Education for Turkish Language and Primary Teachers, who also assume the task of developing students' critical thinking skills, include the competency "to use the Turkish language accurately and effectively and to act as a model in terms of communication" as well. Teachers are expected to be models in using thinking skills effectively as well as using linguistic skills. In this respect, pre-service teachers are required to graduate with high dispositions towards thinking skills in general and critical thinking skills in a more specific sense.

The present study aimed to determine the critical thinking dispositions of Turkish Language and primary teachers in terms of several variables in order to make inferences about pre-service teachers' potentials to improve their students' critical thinking skills. Within the scope of this purpose, the following questions were tried to be answered:

- 1) How are the critical thinking dispositions of pre-service Turkish Language and primary teachers?
- 2) Is there a difference between the critical thinking dispositions of pre-service Turkish Language and primary teachers?
- 3) Do the critical thinking dispositions of pre-service Turkish Language and primary teachers vary by gender?
- 4) Do the critical thinking dispositions of pre-service Turkish Language and primary teachers vary by the number of books they read in a year?
- 5) Do the critical thinking dispositions of pre-service Turkish Language and primary teachers vary by the daily time they spend watching TV?

2. Method

The study was carried out in the descriptive survey design and the study group consisted of the senior students attending the Departments of Turkish Language Teaching and Elementary Education at Balıkesir University Necatibey Faculty of Education in the 2012-2013 academic year. A total of 215 students, 105 from the Turkish Language Departments and 110 from the Department of Elementary Education, participated in the study.

In order to determine critical thinking dispositions of the participants, The California Critical Thinking Disposition Inventory was employed as the data collection instrument of the study. The scale was adapted to Turkish and tested for validity and reliability by Kökdemir (2003) in Turkey. The scale is scored as a 6-point Likert type scale and consists of 51 items. Table 1 shows the names of subscales, numbers of items, minimum and maximum scores possible and the item numbers of the scale.

Table 1. Structural Properties of the California Critical Thinking Disposition Inventory

Subscale	Number of Items	Min. and Max. Scores possible	Item Numbers
Analyticity	10	10-60	2, 3, 12, 13,16, 17, 23, 24, 37, 40
Open-Mindedness	12	12-72	5, 7, 15,18,22,26,33,36,41,43,45,47
Inquisitiveness	9	9-54	1, 8,30,31,32,34,38,42,46
Self-Confidence	7	7-42	14,29,35,39,44,48,51
Truth-Seeking	7	7-42	6,11,20,25,27,28,49
Systematicity	6	6-36	4,9,10,19,21,50
TOTAL	51	51-306	

Total scores obtained on the scale the structural properties of which are displayed in Table 1 were analyzed by converting into standard scores and as a result of the scoring, scores under 240 were accepted as low, those between 240 and 300 as moderate and scores over 300 were accepted as high critical thinking levels. As one can see in Table 1, the scale consists of 6 sub-scales namely analyticity, open-mindedness, inquisitiveness, self-confidence, truth seeking and systematicity. In terms of the sub-scales, total scores under 40 were accepted as low, scores between 40 and 50 as moderate and those over 50 as high. The reliability coefficient of the scale is 0.88. Coefficients of internal consistency are between 0.61 and 0.78 for each subscale. The present study found the reliability of the scale as .85.

The data obtained were analyzed through descriptive statistics, t test and one way analysis of variance based on the sub-problems of the study. Evaluation in the test of significance was performed at the level of ".05".

3. Results

The findings of the study were designed within the framework of the sub-problems and are presented under five headings.

1) How are the critical thinking dispositions of pre-service Turkish Language and primary teachers?

The first research question dealt with is “How are the critical thinking dispositions of pre-service Turkish Language and primary teachers?” In order to seek an answer to this question, the data were analyzed descriptively and the findings obtained are presented in Table 2.

Table 2. Pre-service Turkish Language and Primary teachers’ Scores on critical thinking

	Department	Number of Students (N)	Lowest Score	Highest Score	Arithmetic mean (\bar{X})	Standard deviation (SD)
Analyticity	Turkish	105	35.00	58.00	47.28	5.35
	Primary	110	34.00	58.00	47.68	5.54
Open-mindedness	Turkish	105	30.00	59.17	46.34	6.75
	Primary	110	33.33	57.50	44.03	5.75
Inquisitiveness	Turkish	105	28.89	57.78	44.29	7.48
	Primary	110	27.78	58.89	44.41	6.89
Self-confidence	Turkish	105	21.43	54.29	40.43	6.51
	Primary	110	20.00	55.71	41.04	7.09
Truth seeking	Turkish	105	22.86	48.57	35.27	5.44
	Primary	110	21.43	52.86	34.71	6.91
Systematicity	Turkish	105	23.33	60.00	43.79	7.57
	Primary	110	25.00	58.33	43.45	6.52
TOTAL	Turkish	105	198.56	320.47	257.39	27.76
	Primary	110	196.61	327.57	255.33	24.97

It can be seen in Table 2 that pre-service Turkish language teachers have a mean of 257.39, while it is 255.33 for pre-service primary teachers. It is stated that general critical thinking dispositions would be defined as low if the score obtained on the scale is under 240; moderate if it is between 240 and 300 and high if it is over 300 (Kökdemir 2003). Based on these results, it could be said that both pre-service Turkish Language teachers and primary teachers have moderate levels of critical thinking dispositions. As for the sub-scales, those under 40 are evaluated as low, between 40 and 50 as moderate and over 50 as high (Kökdemir 2003). Considering Table 2 in the light of this information, it could be asserted that participants from both groups have low dispositions in the “truth seeking” sub-scale concerning critical thinking; while they have moderate levels of disposition in all other sub-scales (analyticity, open-mindedness, inquisitiveness, systematicity and self-confidence).

Is there a difference between the critical thinking dispositions of pre-service Turkish Language and primary teachers?

An independent samples t test was conducted in order to determine whether the department attended affects pre-service teachers’ critical thinking dispositions or not.

Values from the Levene’s Test, which was used to decide on the statistical tests to be conducted for the comparison of the critical thinking dispositions of pre-service Turkish language and primary teachers and several statistical values concerning the comparison of the pre-service teachers in terms of their departments are given in Table 3.

Table 3. T-test results of the Critical Thinking Dispositions of Pre-service Turkish Language and Primary Teachers in terms of their Departments

	Group	N	\bar{X}	SD	df	Levene Stat.		t	Sig (p)
						F	p		
Level of Critical Thinking Disposition	Turkish	105	222,00	23,59	213	2,155	0,144	0,797	0,426
	Primary	110	219,59	20,80					

Level of significance $p < .05$

According to the Levene’s Test results in Table 3, since the two sample variances of the standard scores obtained from

the scale were homogeneous ($p=,144>,05$), equivalent variance t test results were used among the t test results. These results show that critical thinking dispositions of the pre-service teachers are not significantly different in terms of the departments they attend ($t_{(213)}=0,797$ $p=0,426$). This finding can be interpreted as there is no significant difference in favor of one group between pre-service Turkish language teachers and primary teachers in terms of their dispositions of critical thinking.

2) Do the critical thinking dispositions of pre-service Turkish Language and primary teachers vary by gender?

An independent samples t test was performed in order to evaluate the effect of gender on the pre-service teachers' critical thinking dispositions and the results are presented in Table 4.

Table 4. T-test results of the Critical Thinking Dispositions of Pre-service Turkish Language and Primary Teachers in terms of their Gender

	Group	N	\bar{X}	SD	df	Levene Stat.		t	Sig (p)
						F	p		
Level of Critical Thinking Disposition	F	141	222,47	22,66	213	0,221	0,639	1,554	0,122
	M	74	217,53	21,03					

Level of significance $p<,05$

According to the Levene's Test results in Table 4, since the two sample variances of the standard scores obtained from the scale were homogeneous ($p=0,221>,05$), equivalent variance t test results were used among the t test results. These results show that critical thinking dispositions of the pre-service teachers do not vary significantly in terms of gender ($t_{(213)}=1,554$; $p=0,122$). This finding can be interpreted as there is no significant difference in favor of any one group between the critical thinking dispositions of female pre-service teachers and male pre-service teachers.

Do the critical thinking dispositions of pre-service Turkish Language and primary teachers vary by the number of books they read in a year?

The effect of the number of books read in a year on the critical thinking dispositions of the pre-service teachers was examined through one way variance analysis. Descriptive statistics concerning the number of books the pre-service teachers read every year are presented in Table 5 and the results of the variance analysis and the LSD test are given in Table 6.

Table 5. Descriptive Statistics concerning the Number of Books the Pre-service Teachers Read in a Year

Group	N	Mean	SD
None	10	204,20	24,15
1-5 books	103	219,97	20,12
6-11 books	59	218,33	25,05
Over 12 books	43	229,88	19,32

In Table 5, it can be seen that of the 215 pre-service teachers who participated in the study, 48% read 1-5 books in one year while 4.7% read no books. Based on this fact, it could be concluded that more than half the pre-service Turkish language and primary teachers read either no books or maximum 5 books in one year.

In a classification of individuals' reading habits, readers are divided into three groups as light readers (no more than 5 books a year), medium readers (6-11 books a year) and heavy readers (more than 12 books a year) (Yılmaz, 2004:116 cited from ALA,1978). According to this classification, of the pre-service teachers who participated in the study, 53% can be defined as light readers, 27% as medium readers and 20% as heavy readers.

Table 6. Comparison of the Number of Books Read by the Pre-service Teachers per year and their Critical Thinking Dispositions

	Source of Variance	Sum of Squares	df	Mean Square	F	P	Significant Differences
Critical Thinking Disposition	Between groups	6727,95	3	2242,65	4,798	0,003	1-2; 1-4; 2-4; 3-4
	Within groups	96629,61	211	467,44			
	Total	105357,56	214				

Level of significance $p<,05$

Test results given in Table 6 show a significant difference between the critical thinking dispositions of the pre-service teachers in terms of the number of books they read per year ($F=4,798$; $p=0,003$). This finding indicates that different numbers of books read in one year have different effects on critical thinking dispositions. Moreover, the source of the difference between the number of books the pre-service teachers read per year and their critical thinking dispositions was identified with LSD test and significant differences were found between those who read no books or maximum 5 books and those who read more than 12 books per year; and between those who read maximum 5 books or 6-11 books and those who read more than 12 books per year. This finding implies that the higher the number of books read per year is, the higher the critical thinking disposition gets.

Do the critical thinking dispositions of pre-service Turkish Language and primary teachers vary by the daily time they spend watching TV?

The study finally investigated the effect of the daily time spent watching TV on the pre-service teachers' critical thinking dispositions. Descriptive statistics data regarding the time pre-service teachers spend watching TV every day are presented in Table 7 and the variance analysis results concerning the comparison of critical thinking dispositions and the time spent watching TV every day can be seen in Table 8.

Table 7. Descriptive Statistics Concerning the Daily Time Spent Watching TV by Pre-service Teachers

Group	N	Mean	SD
None	47	225,32	22,45
Under 2 hours	86	220,34	21,34
2 hours	46	220,26	20,45
Over 2 hours	36	216,48	25,59

Table 7 shows that 22% of the pre-service Turkish language and primary teachers who participated in the study do not watch TV at all while 40% watch TV for less than 2 hours. Based on this finding, it could be stated that most (62%) of the pre-service Turkish language and primary teachers watch either no TV at all or for less than 2 hours every day. The TV Watching Tendencies Study carried out by RTSC with a sample group of 2.525 individuals in 21 cities found that highly educated participants aged 21-25 watch TV for more than 3 hours every day (RTÜK, 2012). Considering this finding, it can be said that most of the pre-service Turkish language and primary teachers who participated in the present study watch less TV.

Table 8. Comparison of the Pre-service Teachers' Daily TV Watching Times and Critical Thinking Dispositions

	Source of Variance	Sum of Squares	df	Mean Square	F	P	Significant Differences
Critical Thinking Disposition	Between groups	1665,15	3	555,05	1,129	0,338	-
	Within groups	103692,41	211	491,43			
	Total	105357,56	214				

Level of significance $p<.05$

It can be seen in Table 8 that there is no significant difference between the times pre-service teachers spend watching TV every day and their critical thinking dispositions ($p=0,338>0,05$). In other words, average times the pre-service teachers spend watching TV per day do not affect their critical thinking dispositions.

4. Discussion

In the present study which aimed to specify critical thinking dispositions of pre-service Turkish language and primary teachers in terms of several variables, the participants in both groups were found to have moderate levels of critical thinking dispositions (257.39; 255.33). This finding supports the results of the studies carried out by Kürüm (2002), Türnüklü and Yeşildere (2005), Çetin (2008), Özdemir (2005), Saçlı and Demirhan (2008), Şen (2009), Beşoluk and Önder'in (2010), Bağcı and Şahbaz (2012). These studies have also revealed moderate levels of critical thinking scores for pre-service teachers. On the other hand, the studies conducted by Gülveren (2007), Akar (2007), Zayıf (2008) and Çetinkaya (2011) found that critical thinking levels of pre-service teachers were low.

When critical thinking dispositions of the participant pre-service Turkish language and primary teachers were evaluated in terms of the subscales; participants on both groups were found to have low levels of disposition in the "truth seeking" subscale while they had moderate levels of disposition in the subscales of analyticity, open-mindedness, inquisitiveness,

systematicity, and self-confidence. This finding is compatible with the findings of the studies carried out by Türknüklü and Yeşildere (2005), Zayıf (2008) and Çetinkaya (2011). In the studies mentioned, the “truth seeking” subscale concerning critical thinking skills is among the subscales on which pre-service teachers had low disposition levels. This can be interpreted as the pre-service teachers have low levels of “disposition to seek the truth by evaluating different opinions” (Kökdemir, 2003).

The study concluded that critical thinking dispositions of pre-service teachers did not vary by the department they attend. Based on this, it could be stated that pre-service Turkish language and primary teachers have similar characteristics in terms of critical thinking disposition.

Critical thinking dispositions of pre-service Turkish language and primary teachers were examined in terms of their gender and no significant difference was found between the groups. Kürüm (2002), Özdemir (2005), Akar (2007), Çetin (2008), Saçlı and Demirhan (2008), Korkmaz (2009), Narin (2009), Şen (2009), Ekinci and Aybek (2010), Bağcı and Şahbaz (2012) have also concluded in their studies that gender is not a variable that causes significant differences in opinions concerning critical thinking. However, some studies have found significant differences between pre-service teachers’ critical thinking dispositions and genders and showed that female students have more positive dispositions than male students. (Yıldırım, 2005; Gülveren, 2007; Zayıf, 2008; Beşoluk and Önder, 2010; Çetinkaya, 2011).

The variable “the number of books read per year” was examined as to whether it affected pre-service Turkish language and primary teachers’ critical thinking dispositions and first, it was found that more than half the pre-service teachers read no books or maximum 5 books per year. In addition, a significant difference was observed between the number of books read per year and critical thinking dispositions of the pre-service teachers and it has been concluded that the higher the number of books is, the greater the critical thinking dispositions get. The barriers in front of critical thinking skills include students’ failure to develop concepts sufficiently and along with other barriers due to such factors as students, parents, teacher, curriculum etc, this is reported to affect the development of critical thinking skills negatively (İşlekeller, 2008). Considering the prerequisite relationship between concept development and reading skills, the influence of reading skills on the development of critical thinking skills would be understood more clearly. In addition, it is emphasized that inculcating reading habits and develop the love of reading in students and designing a curriculum that focuses on thinking are the fundamental points in teaching critical thinking skills (İpşirlioğlu, 1989). Pre-service Turkish language and primary teachers who are expected to inculcate reading habits and love of reading in children and implement learning and instruction processes that focus on thinking must themselves be good readers and effectively use thinking skills in general, critical thinking skills specifically.

Finally, the study looked into the effect of the time spent watching TV per day on critical thinking dispositions of pre-service Turkish language and primary teachers and found in the first place that most of the pre-service teachers watched either no TV at all or watched TV for less than 2 hours daily. It was concluded that no significant relationship existed between the time that pre-service teachers spent watching TV every day and their critical thinking skills; in other words, the time spent watching TV did not affect critical thinking skills.

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