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Examination of critical thinking levels of fifth grade students in primary education in terms of their success in the Turkish language course

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Abstract

This study was conducted in order to determine the relation between the critical thinking levels of 5th grade students in primary education and their success in Turkish Language course. The study was conducted in line with the relational scanning model. Target population of the study comprised primary education 5th grade students studying in the province of Erzurum. And the sample group comprised 610 students selected by convenience sampling from the counties of Palandöken and Yakutiye. Critical Thinking Scale developed by Demir (2006) was used in the study. In data analysis, by means of SPSS 17.0 software package, frequencies, arithmetic mean, standard deviation levels and, for the correlation between critical thinking levels and Turkish Language course success, correlation analysis were used. In conclusion of the study, it was determined that the critical thinking levels of students were high and there was a positive correlation between critical thinking levels and success in the Turkish Language course.

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1. Introduction

1.1. Critical thinking

The concept of thinking which has been acknowledged as the reason for existence is one concept which many have discussed upon throughout the history. Many scientists have developed theories and conducted studies on thinking. Contemporary psychologists claim that the act of thinking has begun with the realization of the problem. Thinking is accepted as all purposeful mental behaviour engaged in to overcome any situation which disturbs the individual individual through internal and external factors and distorts the physical and psychological balance of the individual (Kazancı, 1989).

Many studies have been conducted on thinking types and thinking skills. When these studies and classifications are examined, it is not possible for us to say that researchers have been able to reach a common ground. For instance, Üstünoğlu (2006), in a classification he made, evaluated *critical thinking, creative thinking, analytical thinking, reflective thinking and problem-solving skills* as high-level thinking skills.

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Cüceloğlu (1993; 255-256) defines critical thinking, which is frequently emphasized and included in educational curriculums today, as an active and organized mental process which enables us to understand ourselves and the events around us by being aware of our own thinking process, considering the thinking processes of others, and applying what we have learned.

Chance (1986) defines critical thinking as “the ability to analyze facts, generate and organize ideas, defend opinions, make comparisons, draw inferences, evaluate arguments and solve problems (Reference from Sahinel, description of critical thinking made by the American Philosophical Association in its Delphi Report announced in 1990 was (Facione, 1998): *We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which judgment is based. Critical thinking is essential as a tool of inquiry. As such, critical thinking is a liberating force in education and a powerful resource in one’s personal and civic life. While not synonymous with good thinking, critical thinking is a pervasive and self-rectifying human phenomenon.*”

Adler has determined certain universal skills in relation to critical thinking. These are logical deduction, evaluation, analysis, inference, inquiry, perception, organization and thinking. (Bökeoğlu and Yılmaz, 2005).

1.2. Critical thinking and Turkish language

In the age of information, the individual’s capability to lead a good life is dependent upon his ability to access, use and produce information. The acquisition of those skills is in parallel with the quality of the education program applied in a country. In this context, the courses can be arranged in a manner to teach students how to think critically in terms of their contents and presentation (Çetin, 2004). Therefore, certain changes have been made in educational programs in Turkey and these changes were reflected on primary education programs as of the educational year of 2005-2006. The new program was built on novel approaches like the constructivist approach, student-centered learning, and the multiple intelligence theory.

Güzel (2005: 72-74), describes one of the reasons why critical thinking, considered to be one of the essential life skills, must be included in the educational programs as follows: *Students who complete the compulsory education must practice making logical deductions from what they read and listen to, reading between the lines, seeing different implications and arriving at a conclusion. Formation of these skills is related to critical thinking as well.*

These approaches are concentrated on developing language and mental skills rather than changing the student's behavior in the education process. In this study, too, the relation of Turkish Language course success of the student to critical thinking skills was considered to be worth examination. Because, Turkish teaching program has been prepared based on skills among which critical thinking skill ranks near the top. Turkish teaching programs need to be put to an in-depth examination in order to make an accurate interpretation of the findings obtained.

The Turkish Language education program aims to hold the students responsible for their own learning in all aspects with regards to both general objectives and acquisitions and to induce development as an individual in all aspects. In the light of the recent scientific developments and approaches in the field of education, it is essential that the student develops and uses language skills and mental skills effectively. To that end, mental skills such as thinking, understanding, ranking, classifying, inquiring, establishing relations, matching, analyzing, synthesizing, and evaluating were focused on.

In order to improve comprehension skills, activities such as ranking, classification, matching, estimating, establishing relations, summarizing, analyzing-synthesizing and evaluation were included in primary education course books and exercise books; and also emphasis was laid on understanding through intra-, extra-, and inter-textual reading. While the program has been built on a skill-based understanding, it requires the student to acquire the critical thinking skill.

In this study, conducted to determine the correlation between the critical thinking levels of fifth grade primary education students and their Turkish Language course success, answers were sought for the following questions:

- 1) How high is the critical thinking levels of fifth grade primary education students (low-medium-high)?
- 2) Is there a relation between the critical thinking levels of fifth grade primary education students and their Turkish language course success?

2. Method

2.1. Design and operation of the research group

Of general scanning models, relational scanning model was used in the study. Target population of the study comprised 5th grade primary education students in the province of Erzurum. The sample group of the study comprised 610 students from 6 primary schools randomly selected in the counties of Palandöken and Yakutiye. Sampling method of the study is convenience sampling method of non-random sampling methods. Convenience

sampling is the method in which the sample group is selected from accessible units which can be studied easily due to existing restrictions in terms of time, money and workforce (Büyüköztürk, 2010).

2.2. Collection and analysis of data

“Critical Thinking Scale” developed by Demir (2006) was used for data collection without any problem. The scale comprises 56 items and 6 sections. The scale consists of six critical thinking skills (analysis, evaluation, inference, interpretation, explanation, self-regulation, accepted in Facione (1990) Delphi report.

Data obtained in the study were analyzed using SPSS (Statistical Package for The Social Science) 17.0 software package. Frequency, percentage, arithmetic mean, standart deviation levels and, to determine whether a correlation exists between critical thinking levels and Turkish Language course success, correlation analysis were used in data analysis. Correlation between the variables is within the range of +1 to -1 in correlation analysis. Values between 0.70-1.00 as absolute value can be defined as “high”, those between 0.70-0.30 can be defined as “medium” and those between 0.30-0.00 can be defined as a “low” level correlation (Büyüköztürk, 2010).

3. Findings

Distribution of students by their Turkish Language course success is given in Table 1.

Table 1. Distribution of students by their Turkish language course success

Standing	f	%
No Response	21	3,4
Poor	4	,7
Pass	16	2,6
Medium	70	11,5
Good	166	27,2
Very Good	333	54,6
Total	610	100,0

As can be seen in Table 1, Turkish Language course success of students is: 4 (0,7%) are poor, 16 (% 2,6) pass, 70 (%11,5) are medium, 166 (% 27,2) are good and 333 (%54,6) are very good. And 21 (%3,4) students did not respond.

Turkish Language course success of the sample group is comprised of school report points for the previous term (first semester of the educational year of 2010-2011). Based on the findings, students who passed Turkish Language course with *very good* in their school reports constituted more than the sample group of 54,6%. Accordingly, it can be said that the majority of students included in the sample group were successful in the Turkish Language course. Students who passed the Turkish Language course with *good* in their school reports ranked the second with a percentage of 27,2%, those who passed the course with *medium* ranked the third with a percentage of 11,5% and students who *did not respond* ranked the fourth with a percentage of 3,4%. The number of students who failed the Turkish language course with *poor* rating in their school reports is quite low with a percentage of 0,7%.

3.1. The findings from the first research problem

Findings on the critical thinking levels of students are given in Table 2.

Table 2: Critical thinking levels of the sample group

Skills	N	Minimum	Maximum	Average	Standard Deviation
Analysis	610	1	3	2,78	,444
Evaluation	610	1	3	2,67	,562
Inference	610	1	3	2,63	,533
Interpretation	610	1	3	2,34	,547
Remarks	610	1	3	2,36	,666
Self-Regulation	610	1	3	2,67	,474

When Table 2 is examined, it can be seen that critical thinking-analysis skill average level is 2,78; critical thinking-evaluation skill average is 2,67; critical thinking-inference skill average is 2,63; critical thinking-

interpretation skill average is 2,34; critical thinking-explanation skill average is 2,36 and critical thinking - self-regulation skill average is 2,67.

In data analysis, the “1.00–1.66” range was accepted as the arithmetic mean of “low level critical thinking skill”, “1.67–2.33” range as that of “medium level critical thinking skill”, and “2.34–3.00” range as that of “high level critical thinking skill”. Based on these findings, it is concluded that students have “high level critical thinking skills” as the arithmetic mean of six critical thinking skills was in “2.34–3.00” range.

3.2. The findings from the second research problem

The relation between critical thinking-analysis skill and the Turkish Language course success is given in Table 3.

Table 3. Relation between critical thinking-analysis skill and the Turkish language course success

		Turkish Language Course Success	Analysis
Turkish Language Course Success	Pearson Correlation	1	,290
	Sig. (2-tailed)		,000
	N	610	610
Analysis	Pearson Correlation	,290	1
	Sig. (2-tailed)	,000	
	N	610	610

According to Table 3, there is a significant, positive and low-level correlation between analysis dimension of critical thinking and the Turkish Language course success. As the Turkish Language course success increases, so does the level of analysis skill.

The relation between critical thinking-evaluation skill and the Turkish Language course success is given in Table 4.

Table 4. Relation between critical thinking-evaluation skill and the Turkish language course success

		Turkish Language Course Success	Evaluation
Turkish Language Course Success	Pearson Correlation	1	,294
	Sig. (2-tailed)		,000
	N	610	610
Evaluation	Pearson Correlation	,294	1
	Sig. (2-tailed)	,000	
	N	610	610

According to Table 4, there is a significant, positive and low-level correlation between evaluation dimension of critical thinking and the Turkish Language course success. As the Turkish Language course success increases, so does the level of evaluation skill.

The relation between critical thinking-inference skill and the Turkish Language course success is given in Table 5.

Table 5. Relation between critical thinking-inference skill and the Turkish language course success

		Turkish Language Course Success	Inference
Turkish Language Course Success	Pearson Correlation	1	,295
	Sig. (2-tailed)		,000
	N	610	610
Inference	Pearson Correlation	,295	1
	Sig. (2-tailed)	,000	
	N	610	610

According to Table 5, there is a significant, positive and low-level correlation between inference dimension of critical thinking and the Turkish Language course success. As the Turkish Language course success increases, so does the level of inference skill.

The relation between critical thinking-interpretation skill and the Turkish Language course success is given in Table 6.

Table 6. Relation between critical thinking-interpretation skill and the Turkish language course success

		Turkish Language Course Success	Interpretation
Turkish Language Course Success	Pearson Correlation	1	,215
	Sig. (2-tailed)		,000
	N	610	609
Interpretation	Pearson Correlation	,215	1
	Sig. (2-tailed)	,000	
	N	609	609

According to Table 6, there is a significant, positive and low-level correlation between interpretation dimension of critical thinking and the Turkish Language course success. As the Turkish Language course success increases, so does the level of interpretation skill.

The relation between critical thinking-explanation skill and the Turkish Language course success is given in Table 7.

Table 7. Relation between critical thinking-explanation skill and the Turkish language course success

		Turkish Language Course Success	Remarks
Turkish Language Course Success	Pearson Correlation	1	,236
	Sig. (2-tailed)		,000
	N	610	610
Remarks	Pearson Correlation	,236	1
	Sig. (2-tailed)	,000	
	N	610	610

According to Table 7, there is a significant, positive and low-level correlation between explanation dimension of critical thinking and the Turkish Language course success. As the Turkish Language course success increases, so does the level of explanation skill.

The relation between critical thinking-self-regulation skill and the Turkish Language course success is given in Table 8.

Table 8. Relation between critical thinking-self-regulation skill and the Turkish language course success

		Turkish Language Course Success	Self-Regulation
Turkish Language Course Success	Pearson Correlation	1	,272
	Sig. (2-tailed)		,000
	N	610	610
Self-Regulation	Pearson Correlation	,272	1
	Sig. (2-tailed)	,000	
	N	610	610

According to Table 8, there is a significant, positive and low-level correlation between self-regulation dimension of critical thinking and the Turkish Language course success. As the Turkish Language course success increases, so does the level of self-regulation skill.

4. Conclusion

This study was conducted on 610 5th grade students from 6 different primary schools in the counties of Palandöken and Yakutiye in Erzurum. The study aimed to determine the correlation between critical thinking levels of 5th grade primary education students and their Turkish Language Course success.

In the study, which measured 6 sub-dimensions of critical thinking skills, the average of all skills was also found high. It can be asserted that these results can be affected by the improved primary education programs, modified teaching methods, teacher attitudes, the development of educational technologies and parent attitudes. In a study by Demir (2006) which was conducted on 4th and 5th grade students, it appeared that they had high-level skills in four sub-dimensions of critical thinking (analysis, evaluation, inference and self-regulation) and medium-level skills in two sub-dimensions of critical thinking (interpretation and explanation) based on social studies program (SPB) of

1998. According to SBP of 2005, they had high-level skills in general in four sub-dimension of critical thinking (analysis, evaluation, inference and self-regulation) and, as for the interpretation, 4th grade students had medium-level skills and 5th grade students had high-level critical thinking skills. In a study by Akar (2007) aiming to determine the critical thinking skills of 6th grade students, it was found that the critical thinking skills of primary education students were insufficient.

As a result of the analysis of the correlation between critical thinking skills and Turkish Language Course success, a significant, positive and low-level correlation was observed for all critical thinking skills. In that sense, it can be asserted that Turkish language teaching program, teaching method and course activities may contribute to Turkish Language course performance of students and to helping the teacher to improve their critical thinking skills. It can be said that the primary education Turkish Language program which is specifically based on skills can contribute to the acquisition of critical thinking skills.

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