

The Relation Between Cognitive Awareness of Reading Strategies and Writing Anxiety

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Abstract: This study aims to determine the cognitive awareness of reading strategies of secondary school students, the relation between the cognitive awareness of reading strategies and writing anxiety, and the common effect of some variables on cognitive awareness of reading strategies. This quantitative study is an example of a relational survey model with correlational research features. Data have been collected through two different scales. 339 secondary school students have participated in this research. Mean, frequencies, standard deviation, Pearson Correlation Coefficient, Simple Linear Regression, and Two Way Anova have been used for data analysis. As a result of the study, secondary school students have good cognitive awareness of reading strategies, and there is a negative relation between cognitive awareness of reading strategies and writing anxiety. Verbal academic success is a predictor of cognitive awareness of reading strategies, and the common effect of gender and writing anxiety doesn't influence cognitive awareness of reading strategies.

Keywords: Reading Strategies, Cognitive Awareness, Writing Anxiety, Secondary School Students, Common Effect.

1. Introduction

Strategies that facilitate our lives, make our deeds practical and show how to reach our objectives are the factors that provide us success in daily and academic life and motivate us to achieve our goals. These strategies may sometimes be obtained deliberately and willingly and sometimes out of control. In any way, the strategies that we use in our lives make us stay focused on the target and reach a conclusion in a short time. After students learn how to read and write in the first years of primary school and develop these skills, they start to read on purpose according to one or more objectives. A significant portion of future school learning (grades 4–16) rests on the language skill of reading, which is introduced and mastered in the primary grades (Morris, 2022). To boost students' success in the classroom, reading is a talent that is essential for identifying and comprehending the content (Villanueva, 2022). They read the texts upon the directions of their teachers, the preliminary questions, assignments, or the purposes they have and try to reach their aims as soon as possible. However, students rarely discover the reading strategies by chance so it is necessary to teach reading strategies directly (Koch & Spörer, 2017).

1.1. Problem Statement

To comprehend what has been read culminates in having an idea about the thoughts on the text, assimilating the text's main theme, and speaking and writing about the text. A good reader may achieve these results effectively and in a short time through reading strategies that he/she identifies according to his/her learning styles. The ones who have cognitive awareness about these strategies are purposeful, planned, and result-oriented. The ones who can use their cognitive awareness strategies while reading are conscious of why they are reading and what they are searching for; for this reason, they can grasp the main idea. As a result of it, they can easily write what they comprehend. After reading the text, writing becomes an enjoyable and enthusiastic activity for them. However, those who lack the use of these strategies may feel anxiety and may have some hesitations about writing since they haven't comprehended the text precisely. After students in the first years of primary school

learn how to read and write, they begin to read various books according to their interests, and they enjoy reading.

During this period, they try to develop their reading and writing skills. At elementary school, students are expected to acquire certain strategies for reading. To what extent do the students acquire these strategies, and the degree of relation between comprehending what to read and writing anxiety are important in academic success. According to PISA 2018 results, in reading literacy, Turkish 15-year-olds score 466 points, below an OECD average of 487 points (OECD, 2019). In this respect, this study is important since it is aimed to identify the level of cognitive awareness of reading strategies of 7th grade students. In addition, this study aims to find out the relationship between writing anxiety and cognitive awareness of reading strategies, as well as the common effects of several variables on cognitive awareness of reading strategies.

1.2. Related Research

Reading and comprehension skills are mostly associated with cognitive and cognitive awareness. Cognitive with regard to comprehension of what is being read is about knowledge and experience the reader has. This knowledge and experience are about the strategies used while reading and several actions which help to understand. A student's cognitive knowledge includes knowledge about the existing strategies, the requirements of a certain task, and the competencies needed for completing a task (Neuenhau et al., 2011). Cognitive awareness occurs when equipped readers use their knowledge and experience while reading. People who have cognitive awareness during the reading process are objective-oriented and aware of the reason for their reading. These conscious readers have identified certain strategies to cope with reading difficulties. Some cognitive strategies used while reading are to plan before reading, to inquire constantly about reading comprehension during the reading process, and after reading to evaluate whether the reading targets have been achieved (Karatay, 2009). The term "metacognitive" covers high-level thinking skills, including active control of learning during the cognitive process. These learning activities, such as planning how to do homework, monitoring comprehension, and evaluating the process of a task from its start to its end, are about the nature of metacognitive. Metacognitive or cognitive awareness is vital to successful learning (Livingston, 2003). Cognitive awareness also includes students' being responsible for their learning.

Numerous researches have been done on the effectiveness of explicit strategy teaching in enhancing reading comprehension (Bos et al., 2016; Choo et al., 2011; Gooden, 2012; Nguyen, 2022; Ofudo & Adedipe, 2011; Prado & Plourde, 2011; Wichadee, 2011). According to other studies, using cognitive strategies positively impacts comprehending knowledge in a short time (Künsting, Kempf & Wirth, 2013; Royanto, 2012; Şen, 2009). Previous studies of cognitive awareness of reading strategies have not addressed the relationship between reading and writing anxiety. Therefore, this paper will contribute to this gap in the literature.

1.3. Research Objectives

This study aims to examine the levels of cognitive awareness of reading strategies of 7th grade students, the relation between the cognitive awareness of reading strategies and writing anxiety, and the common effect of some variables on cognitive awareness of reading strategies. In this study, the questions below are asked to conduct this research:

- 1) What is the frequency of the level of cognitive awareness of reading strategies of 7th graders?
- 2) Is there a significant difference between the cognitive awareness of reading strategies and the writing anxiety of 7th graders?
- 3) Is verbal academic success an indicator of cognitive awareness of reading strategies?
- 4) Are there any significant differences of the points of 7th grade students' cognitive awareness of reading strategies depending upon the common effect in terms of

- writing anxiety and gender,
- writing anxiety and the number of books read per month,
- writing anxiety and the grade of the first written exam in Turkish Lesson,
- writing anxiety and the grade of the first written exam in Mathematics Lesson?

2. Theoretical Framework

Readers need to use a variety of reading strategies while selecting different genres of literature. It is possible to divide reading strategies into "before reading" and "while reading". The strategies used "before reading" are to have a reading purpose (to know what to read and what to achieve after reading) and to skim the text (to examine whether the text is appropriate for reading purposes). The strategies below can be used "while reading":

- Students can follow their understanding of reading (to diagnose the text's appropriateness for reading purposes, to comprehend the text's main idea, to find out the mistakes in the text, to notice the loss of concentration while reading, to notice some unknown words, etc.).
- Students can use prior knowledge and associate it with the subject of the text (to remember what has already been known about it, to use prior knowledge to fill the gaps related to unnamed information in the text, etc.).
- Students can predict the subject of the text (to estimate the subject of the text by examining the title and the pictures (if there are any), estimate the subject of the text through scanning and estimate what will happen next while reading, etc.).
- Students can make sense of the text (to find out the meanings of unknown words, to simplify difficult sentences and paragraphs by separating them into pieces).
- Students can arrange their reading speed according to their understanding of the subject.
- Students can mark or underline the important phases while reading, and they can take notes.
- Students can imagine the people or the events narrated in the text (Baydik, 2011, Villanueva, 2022).

These and such strategies identify the individual's life quality and features. Reading is not something related to academic issues but also is related to everything we face daily. Reading should be seen as knowledge, skill, and competence, which develops throughout our lives (Roeschl-Heils et al., 2003). We benefit from some strategies while reading all the texts we encounter daily, such as reading newspapers at home, an announcement or an advertisement on the street, a menu at a restaurant, and subtitles of a movie at the cinema. Therefore, to achieve and improve reading and comprehension skills becomes more of an issue. Individuals who understand what they read can deliver them to others, make an interpretation, think critically and draw a conclusion from what has been read. Such people are the ones who have improved their high-level skills. It is crucial to have a social status for these people who like improving themselves. The reading process attaches importance to metacognitive strategies that facilitate the comprehension of difficult texts (Pammu et al., 2014). There have been several metacognitive strategies that increase the comprehension of the students such as rereading the text, making predictions, evaluating one's understanding, visualizing images, summarizing the ideas, etc. Meniado (2016) stated that successful readers are better at assessing their comprehension performance when they are aware of the strategies that can be used to read well. Therefore, students should monitor what they know or don't know and judge their learning styles. In short, they should use their metacognitive skills (Walker, 2003: 184). The metacognitive skills are effective on students' academic success, as well.

Metacognitive abilities appear crucial in describing performance between proficient and poor readers and writers in both reading and writing. Increasing interest in cognitive

awareness shows that reading and writing are connected (Gutierrez de Blume et al., 2021). There hasn't been any concrete evidence to support the notion that reading and writing are distinct cognitive processes with unique representations but there is a wealth of information regarding the interactions between production and comprehension (Buz et al., 2016; Guzzardo Tamargo et al., 2016; Kittredge & Dell, 2016). Reading and writing processes are constantly repeated to actively derive meaning from the text by the students who have cognitive awareness (El-Hindi, 1997). Being active in reading and speaking results in imagining what to write in one's mind, focusing on the topic, and writing effectively (Aşlıoğlu ve Özkan, 2013). However, students who don't have cognitive awareness may feel anxiety about the reading and writing process. The signs indicating anxiety reveal that students lack certain experiences and knowledge (Schunk, 2003). Problems encountered while reading may cause other problems at the next steps, such as during writing, speaking processes, etc.; these problems can be diminished by reading more and more. Many educators think that a good reader is born through the constant reading of books (Pressley, 2006) and reading helps improvement of students' vocabulary skills (Cain & Oakhill, 2011). Through this way, the comprehension level of the students increases.

Students' reading comprehension is influenced by a variety of circumstances. Some of these are reading skills, prior knowledge, metacognitive understanding, and vocabulary proficiency (Koda, 2007). Students' reading habits, prior knowledge, hands-on practice with comprehension strategies, adaptability, the type of content, inadequate vocabulary knowledge, and knowledge of various reading comprehension techniques can all have an impact on how well readers comprehend the text they are reading (Al-Jarrah & Ismail, 2018). In this study, as well as examining the relationship between the cognitive awareness of reading strategies and writing anxiety, it is aimed to investigate whether verbal academic success is an indicator of cognitive awareness of reading strategies.

3. Method

3.1. Research Design

In this study, one of the quantitative models, the relational survey model, has been used to examine the levels of cognitive awareness of reading strategies of 7th grade students and the common effect of some variables on cognitive awareness of reading strategies. At the same time, this study has the features of correlational research since the relation between the cognitive awareness of reading strategies and writing anxiety is investigated.

3.2. Participant

The population of this study consists of the 7th grade students in the city center of Afyonkarahisar province, whereas the sample of this study consists of 339 7th grade students studying at three different secondary schools in the city center of Afyonkarahisar. To identify the sample size, the proportion of the sample size introduced by Yazicioğlu and Erdoğan (2011) has been used. 155 students (45.7 %) are female, while 184 (54.3 %) are male. 89.7 % of the students said they liked the Turkish lesson, whereas 10.3 % didn't like it. In this study, the convenience/accidental sampling method, which is under the head of the non-probability samples, has been used. The convenience/accidental sampling method is one of the purposive samples. Purposive sampling is useful when it is urgent to reach the target sample and when it is not necessary to use simple random or stratified random sampling (Singh, 2007: 108). For convenience/accidental sampling, the researcher chooses the participants since they are willing to participate in this research and are appropriate for this research (Creswell, 2012: 145).

3.3. Data Collection

In this study, two different scales have been used to collect data. The Cognitive Awareness of Reading Strategies scale: Including 32 items, a 5-point Likert-type scale developed by Karatay (2009), has been used to identify the level of cognitive awareness of reading strategies. The scoring of the scale is as follows: I always do (5), I usually do (4), I sometimes do

(3), I rarely do (2), and I never do (1). The Cronbach Alpha value of the scale developed by Karatay (2009) is 0.91; in this study, this value is 0.901.

The scale of Writing Anxiety: 5-point Likert scale, consisting of 19 items, has been used to identify writing anxiety. This scale was developed by Yaman (2010). The scoring of the scale is as follows: Always (5), Usually (4), Sometimes (3), Rarely (2), and Never (1). Cronbach Alpha value of the scale developed by Yaman (2010) is .80, whereas this value is .762 for this study. In the study of Aşlıoğlu and Özkan (2013), this value is .66.

3.4. Data Analysis

In order to evaluate the scale's items, these gaps were used: 4.20–5.00 for "I always do," 3.40–4.19 for "I usually do," 2.60–3.39 for "I sometimes do," 1.80–2.59 for "I rarely do," and 1.00–1.79 for "I never do" (Tekin, 1991: 262). The Kolmogorov-Smirnov test has been used to determine the normality and homogeneity of data before using parametric or nonparametric tests. If the sigma (p) value is larger than 0.005, the test's findings indicate that the data have a normal distribution (Singh, 2007: 100). In this study, according to the Kolmogorov-Smirnov test result, p -value is .282 ($p > 0.05$), so it can be said that data has normal distribution. The values of skewness and kurtosis of data are -.579 and .658, respectively. According to these results, data has normal distribution. If the values for skewness and kurtosis fall within the range of -1.0 and 1.0, the data is considered to have a normal distribution (Huck, 2012: 27).

4. Findings

4.1. The Frequency for the Level of Cognitive Awareness of Reading Strategies of 7th Graders

In Table 1, the frequency for the level of cognitive awareness of reading strategies of 7th graders is given.

Table 1. Descriptive statistics of the items of the scale called cognitive awareness of reading strategies of 7th graders

(I always do: 5, I usually do: 4, I sometimes do: 3, I rarely do: 2, I never do: 1)

Items		1	2	3	4	5	\bar{x}	Result
1. I have a purpose while reading.	F	21	29	100	101	88	3,60	U
	%	6,2	8,6	29,5	29,8	26		
2. I take notes to facilitate my comprehension.	F	95	59	79	63	43	2,70	S
	%	28	17,4	23,3	18,6	12,7		
3. I use my previous knowledge to enhance my comprehension.	F	27	34	75	99	104	3,64	U
	%	8	10	22,1	29,2	30,7		
4. I read aloud when the text is difficult to understand.	F	31	33	62	86	127	3,72	U
	%	9,1	9,7	18,3	25,4	37,5		
5. I scan the text to discover what it is about.	F	12	23	48	96	160	4,08	U
	%	3,5	6,8	14,2	28,3	47,2		
6. I read the text carefully to ensure I comprehend it.	F	5	10	30	61	233	4,49	A
	%	1,5	2,9	8,8	18	68,7		
7. I question whether the text it is appropriate for my reading purpose.	F	34	41	86	115	63	3,38	S
	%	10	12,1	25,4	33,9	18,6		
8. I review the text's title and subtitles while reading.	F	17	27	46	75	174	4,06	U
	%	5	8	13,6	22,1	51,3		

9. I examine the text's general features while reading, such as length, structure, and style.	F	17	35	60	86	141	3,88	U
	%	5	10,3	17,7	25,4	41,6		
10. When I lose my attention while reading, I try to return to the part where I have left.	F	18	16	48	95	162	4,08	U
	%	5,3	4,7	14,2	28	47,8		
11. I underline important text information or circle it to help me remember.	F	34	44	55	93	113	3,61	U
	%	10	13	16,2	27,4	33,3		
12. I question the validity of information and idea of the text in daily life.	F	44	57	86	84	68	3,22	S
	%	13	16,8	25,4	24,8	20,1		
13. Before reading, I decide which parts I should focus on.	F	53	48	91	78	69	3,18	S
	%	15,6	14,2	26,8	23	20,4		
14. I use certain resources, such as a dictionary, to help my comprehension.	F	61	76	70	65	67	3,00	S
	%	18	22,4	20,6	19,2	19,8		
15. When I have difficulty in understanding, I focus on the text thoroughly.	F	14	27	71	58	169	4,00	U
	%	4,1	8	20,9	17,1	49,9		
16. I use visuals such as figures, pictures, and tables to help my comprehension.	F	15	20	46	76	182	4,15	U
	%	4,4	5,9	13,6	22,4	53,7		
17. I pause and think about what I understand in certain periods.	F	32	46	69	109	83	3,48	U
	%	9,4	13,6	20,4	32,2	24,5		
18. I use contextual clues to enhance my reading comprehension.	F	26	48	106	80	79	3,40	U
	%	7,7	14,2	31,3	23,6	23,3		
19. I summarize the ideas in the text with my own words to comprehend thoroughly what I read.	F	27	54	71	81	106	3,54	U
	%	8	15,9	20,9	23,9	31,3		
20. I visualize the information in the text by shapes such as pictures, figures, and tables to remember what I read.	F	43	51	82	65	98	3,36	S
	%	12,7	15	24,2	19,2	28,9		
21. I pay attention to bold, italics fonts, and punctuation marks.	F	21	40	79	88	111	3,67	U
	%	6,2	11,8	23,3	26	32,7		
22. I evaluate the information presented in the text through critical thinking.	F	24	45	85	91	94	3,54	U
	%	7,1	13,3	25,1	26,8	27,7		
23. I go over the text again to find out the relations between ideas.	F	15	40	78	101	105	3,71	U
	%	4,4	11,8	23	29,8	31		
24. I check my previous comprehension when I encounter contradictory information.	F	21	33	80	90	115	3,72	U
	%	6,2	9,7	23,6	26,5	33,9		
25. Before reading, I try to predict the topic of the text.	F	40	46	72	73	108	3,48	U
	%	11,8	13,6	21,2	21,5	3,9		
26. When I have difficulty in	F	15	38	61	65	160	3,93	U
	%							

comprehending the text, I read it again to increase my understanding.	%	4,4	11,2	18	19,2	47,2		
27. I ask myself some questions and like to find the answers in the text.	F	38	44	91	61	105	3,44	U
	%	11,2	13	26,8	18	31		
28. I check my predictions about the text to learn whether they are correct.	F	26	35	71	91	116	3,69	U
	%	7,7	10,3	20,9	26,8	34,2		
29. I try to predict the meaning of unknown words and phrases in the text.	F	21	38	84	86	110	3,66	U
	%	6,2	11,2	24,8	25,4	32,4		
30. I summarize all text by using my own words.	F	45	58	85	78	73	3,22	S
	%	13,3	17,1	25,1	23	21,5		
31. I adjust my reading speed according to the text.	F	15	31	69	89	135	3,87	U
	%	4,4	9,1	20,4	26,3	39,8		
32. I discuss what I read with other students to check whether I grasp the text.	F	57	45	74	70	93	3,28	S
	%	16,8	13,3	21,8	20,6	27,4		

(I always do: A, I usually do: U, I sometimes do: S)

According to Table 1, cognitive awareness levels of reading strategies of many 7th graders are high, and the means of many items resulted as "I usually do". 86 % of the students have indicated that they always or usually read the text carefully to ensure they comprehend it. 76 % of the students have stated that they always or usually use visuals such as figures, pictures, and tables to help their comprehension. The mean of this scale is 3.61. Accordingly, cognitive awareness levels of reading strategies of 7th graders are good.

4.2. Relation Between The Cognitive Awareness of Reading Strategies and Writing Anxiety of 7th Graders

Table 2 shows the relation between the cognitive awareness of reading strategies and the writing anxiety of 7th graders.

Table 2. Relation between the cognitive awareness of reading strategies and writing anxiety

Scale	N	p-value	Cognitive Awareness of Reading Strategies	Writing Anxiety
1. Cognitive Awareness of Reading Strategies	339	.000	1	-.303
2. Writing Anxiety	339	.000	-.303	1

In Table 2, Pearson Correlation Coefficient has been used to examine the relation between the cognitive awareness of reading strategies and writing anxiety. According to Table 2, it is seen that there is a relation between the scales negatively. The relation is significant and at a low level (Henn et al, 2006: 210).

4.3. Is Verbal Academic Success a Predictor of Cognitive Awareness of Reading Strategies?

Before applying regression analysis, the histogram and normal distribution of predictor variables have been examined. The simple linear regression analysis has been applied since the data has a normal distribution.

Table 3. Results of simple linear regression analysis of the verbal academic success

Predictor	Predictor Variable	R	R ²	F	B	Beta	Sig
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Verbal Academic Success	Cognitive Awareness of Reading Strategies	.212	.045	15.916	.230	.212	.000
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According to Table 3, it has been found that verbal academic success is a significant predictor of cognitive awareness of reading strategies ($p < 0.05$). Verbal academic success explains 4.5 % of cognitive awareness of reading strategies ($R^2 = .045$).

4.4. Is There Any Significant Difference of Students' Cognitive Awareness Of Reading Strategies Depending Upon The Common Effect in Terms of Writing Anxiety and Gender?

Table 4. Descriptive statistics of cognitive awareness of reading strategies in terms of gender and writing anxiety

Writing Anxiety	Gender						Total		
	Female			Male			N	\bar{x}	S. D.
	N	\bar{x}	S. D.	N	\bar{x}	S. D.			
1. Low	104	121.34	18.52	73	122.09	15.21	177	121.65	17.19
2. Middle	51	112.37	16,37	111	108.45	22.05	162	109.68	20.46
Total	155	118.39	18.28	184	113.86	20.69	339	115.93	19.73

According to Table 4, there isn't a significant difference between the mean of the points of cognitive awareness of reading strategies for female students who participated in this study ($\bar{x} : 118.39$) and the mean of the points for male students who participated in this study ($\bar{x} : 113.86$) ($F_{1-335} : .546, p > 0.05$). Therefore, there are no gender-related differences in the groups' points of cognitive awareness of reading strategies. For students with various levels of writing anxiety, there is a significant difference in the mean of the points ($F_{1-335} : .27,75, p < 0.05$). The mean of the points of cognitive awareness of reading strategies for students with low writing anxiety ($=121.65$) is higher than the mean of cognitive awareness of reading strategies for students with middle level of writing anxiety ($\bar{x} =109.68$). Accordingly, writing anxiety is an important factor in students' cognitive awareness of reading strategies.

According to Table 5, the common effect of gender and writing anxiety on cognitive awareness of reading strategies isn't significant ($F_{1-335} : 1.184, p > 0.05$).

Table 5. Two-way ANOVA for the common effect of gender and writing anxiety

Source of Variance	Sum of Squares	df	Means of Squares	F	p
Gender	193.794	1	193.794	.546	.460
Level of Writing Anxiety	9851.967	1	9851.967	27.755	.000
Gender* Level of Writing Anxiety	420.290	1	420.290	1.184	.277
Error	118913.266	335	354.965		
Total	4688076	339			

4.5. Is There Any Significant Difference of The Points of Students' Cognitive Awareness of Reading Strategies Depending Upon The Common Effect in Terms of Writing Anxiety and The Number of Books Read Per Month?

Table 6. Descriptive statistics of cognitive awareness of reading strategies in terms of the number of books read per month and writing anxiety

Writing Anxiety	Number of Books Read Per Month												Total		
	0			1-2			3-4			5 and more			N	\bar{x}	SD
	N	\bar{x}	SD	N	\bar{x}	SD	N	\bar{x}	SD	N	\bar{x}	SD			
1. Low	9	108	21	56	122	15	45	17	120	67	123	17	177	121	17
2. Middle	21	100	24	59	108	21	44	18	112	38	113	18	162	109	20
Total	30	102	23	115	114	19	89	18	116	105	119	19	339	115	19

According to Table 6, there is a significant difference between the groups' cognitive awareness of reading strategies in terms of the number of books read per month by the students who participated in this study ($F_{1-331}: 3.988, p < 0.05$). Accordingly, the mean of the points of cognitive awareness of reading strategies for the students who never read books ($\bar{x} = 102$) is less than the mean of the points of cognitive awareness of reading strategies for the students who read 1 or 2, 3 or 4 and 5 or more books per month (respectively $\bar{x} = 114, 116$ and 119). Therefore, reading books is important in students' cognitive awareness of reading strategies.

According to Table 7, the common effect of the number of books read per month and writing anxiety on cognitive awareness of reading strategies isn't significant ($F_{1-331}: .478, p > 0.05$).

Table 7. Two-way ANOVA for the common effect of the number of books read per month and writing anxiety

Source of Variance	Sum of Squares	df	Means of Squares	F	p
Number of Books Read per Month	4143.431	3	1381.144	3.988	.008
Number of Books Read per Month *Writing Anxiety Level	496.490	3	165.497	.478	.698
Error	114640	331	346.347		
Total	4688076	339			

4.6. Is There Any Significant Difference of The Points of Students' Cognitive Awareness of Reading Strategies Depending Upon The Common Effect In Terms of Writing Anxiety and The Grade of the First Written Exam in Turkish Lesson?

Table 8. Descriptive statistics of cognitive awareness of reading strategies in terms of the grade of first written exam in Turkish Lesson and writing anxiety

Writing Anxiety	Grade of First Written Exam in Turkish						Total		
	Average			High			N	\bar{x}	S. D.
	N	\bar{x}	S. D.	N	\bar{x}	S. D.			
1. Low	86	120	17.56	91	122	16.85	177	121	17.19

2. Middle	112	108	20.84	50	113	19.36	162	109	20.46
Total	198	113	20.37	141	119	18.32	339	115	19.73

According to Table 8, there isn't any significant difference between the means of points of cognitive awareness of reading strategies for the students who have average grades from the first written exam in Turkish Lesson (\bar{x} : 113) and the means of points of cognitive awareness of reading strategies for the students who have high grades from the first written exam in Turkish Lesson (\bar{x} : 119) (F_{1-335} : 2.884, $p > 0.05$).

According to Table 9, the common effect of the grade of the first written exam in Turkish Lesson and writing anxiety on cognitive awareness of reading strategies isn't significant (F_{1-335} : .363, $p > 0.05$).

Table 9. Two-way ANOVA for the common effect of the grade of first written exam in Turkish Lesson and writing anxiety

Source of Variance	Sum of Squares	df	Means of Squares	F	p
Turkish Lesson Grade	1019.190	1	1019.190	2.884	.090
Turkish Lesson Grade *Writing Anxiety Level	128.400	1	128.400	.363	.547
Error	118399.804	335	353.432		
Total	4688076	339			

4.7. Is There Any Significant Difference of The Points of Students' Cognitive Awareness of Reading Strategies Depending Upon The Common Effect In Terms of Writing Anxiety and The Grade of the First Written Exam in Mathematics Lesson?

Table 10. Descriptive statistics of cognitive awareness of reading strategies in terms of the grade of first written exam in Mathematics and writing anxiety

Writing Anxiety	Grade of First Written Exam in Mathematics						Total		
	Average			High			N	\bar{x}	S. D.
	N	\bar{x}	S. D.	N	\bar{x}	S. D.			
1. Low	68	118	18.11	109	123	16.39	177	121	17.19
2. Middle	93	108	21.15	69	111	19.49	162	109	20.46
Total	161	112	20.52	178	118	18.55	339	115	19.73

According to Table 10, there isn't any significant difference between the means of points of cognitive awareness of reading strategies for the students who have average grades from the first written exam in Mathematics Lesson (\bar{x} : 112) and the means of points of cognitive awareness of reading strategies for the students who have high grades from the first written exam in Mathematics Lesson (\bar{x} : 118) (F_{1-335} : 3.845, $p > 0.05$).

According to Table 11, the common effect of the grade of the first written exam in Mathematics Lesson and writing anxiety on cognitive awareness of reading strategies isn't significant (F_{1-335} : .159, $p > 0.05$).

Table 11. Two-way ANOVA for the common effect of the grade of first written exam in Mathematics lesson and writing anxiety

Source of Variance	Sum of Squares	df	Means of Squares	F	p
Maths Lesson Grade	1354.943	1	1354.943	3.845	.051
Maths Lesson Grade*Writing	56.044	1	56.044	.159	.690

Anxiety Level			
Error	118047.515	335	352.381
Total	4688076	339	

5. Discussion

This study aimed to examine secondary school students' cognitive awareness of reading strategies, the relationship between writing anxiety and cognitive awareness of reading strategies, and the common impact of several variables on cognitive awareness of reading methods. It is found that many 7th grade students use certain strategies to comprehend the texts they read and apply these strategies intentionally. More than half of the students find a certain purpose before reading. While reading, they use their previous knowledge to make related connections between ideas. For better and thorough comprehension, they read the text again and summarize it using their own words. Numerous studies conducted over the past two decades, mostly with undergraduates, demonstrate how readers' reasons for reading a given text impact how they process and create meaning from it (O'Reilly et al., 2018). According to Aktürk and Şahin (2011), students with cognitive skills can monitor their learning, explain their ideas, update their knowledge, develop new learning strategies, and use them for much more learning.

According to this study, 26 % of the 7th grade students have stated that they identify a purpose for reading, whereas according to the study by Kuş and Türkyılmaz (2010) 35 % of the teacher candidates identify a purpose for reading. University students are more conscious than secondary students, so university students read on purpose. According to this study, 12.7 % of the 7th graders have declared that they take notes, whereas according to study by Kuş and Türkyılmaz (2010) 9 % of the teacher candidates have stated that they take notes while reading. It can be said that secondary students learn more and better through taking notes, which is one of the cognitive strategies for reading. 30.7 % of the 7th grade students have indicated that they use prior knowledge while reading. Kuş and Türkyılmaz (2010) have also reached a similar result in their study. Students can easily establish connections by using their previous information and experience and associating ideas with new ones. Thus, they can comprehend what they read.

Effective writers also frequently have strong reading skills since reading and writing are connected processes (Gutierrez de Blume et al., 2021). According to this current study, since there is a negative correlation between cognitive awareness of reading strategies and writing anxiety, the writing anxiety level decreases when cognitive awareness of reading strategies increases. This demonstrates that good readers create a richer mental representation throughout writing activities, leading to the elimination of writing anxiety. Students with a low level of writing anxiety have a high cognitive awareness of reading strategies, whereas students with a middle level of writing anxiety have a low level of cognitive awareness of reading strategies. It is consistent with previous research on the reading process (Language and Reading Research Consortium & Logan, 2017; Soto et al., 2020). According to Yaman (2010), writing activity happens after reading. People write about something after they read and take other writing pieces as examples. Reading and writing are alternate skills. Students who use some techniques for comprehension while reading are also good at writing. At the same time, students having reading difficulties have a disadvantage in writing (Costa et al., 2016). These students are less skilled at recognizing spelling mistakes, slower at rereading texts, and less involved in writing (Ahmed et al., 2022).

Students who are successful at verbal academic lessons have a high cognitive awareness of reading strategies. For this reason, high cognitive awareness of reading strategies causes verbal academic success. Therefore, verbal academic success is a predictor of cognitive awareness of reading strategies. This conclusion drawn from this study has similar features with the study by Hrbáčková and his friends (2012). According to the study of Roeschl-Heils and his friends (2003), students whose cognitive knowledge about reading are better than the other students have performed better on the reading tests. In the study by Pintrich and De

Groot (1990), it is concluded that the use of cognitive strategies at a high level brings success in all tasks. They have indicated that students who use cognitive strategies such as organizing, revision, etc., have better performance than the students who don't use such strategies. According to Biggs (1988), academic performance increases when cognitive strategies are used, so he has emphasized that the cognitive approach is important concerning teaching and self-learning.

According to this study, gender is not an effective factor in cognitive awareness of reading strategies. It can be said that male and female students do not ignore reading since metacognitive strategies regarding reading are not only about academic life but also related to all areas of life. However, in Karatay's (2009) study, female students have a higher cognitive awareness of reading strategies than male students. According to study by Roeschl-Heils and his friends (2003), gender is a meaningful variable in cognitive strategies about reading, and female students perform better than males at school.

As a result of this study, reading book is an effective variable in cognitive awareness of reading strategies. Students who don't read books have a lower cognitive awareness of reading strategies than those who read few books per month. The habit of reading books leads to the use of several strategies while reading. Students who read more use much more metacognitive strategies about reading. Moreover, students who read more have less writing anxiety. Therefore, reading facilitates the development of more strategies for reading. Through the use of these strategies, students can speed up while reading, and they make more meaningful readings. However, students who don't have the habit of reading may lack using and developing such strategies. In also Eroğlu's (2013) study, students who like reading books and have the habit of reading are more successful at writing. Students who don't read books have problems with content, shape, concept, and ideas in writing expression. There are similar results in Yaman's (2010) study and Karakoç Öztürk's (2012) study. Namely, students who don't read books have higher writing anxiety than the ones who read books.

According to this study, there is no common effect of the grade of the first written exam in Turkish Lesson and writing anxiety on cognitive awareness of reading strategies. Moreover, there is no common effect of the grade of the first written exam in Mathematics Lesson and writing anxiety on cognitive awareness of reading strategies. However, students with high grades from the first written exam in Turkish Lesson and Mathematics Lesson have a higher cognitive awareness of reading strategies than the other students. In O'Reilly and McNamara's (2007) study, it has been found that metacognitive reading strategies have little effect on identifying the success of science. Since success in science is related to more practice and experiments, it can be acceptable that metacognitive reading strategies have a low effect on this area. Success in Turkish Lesson and Mathematics Lesson and writing anxiety's effect on cognitive awareness of reading strategies should be considered separately. In the analysis of the effect of each variable separately, there are significant differences between the groups on cognitive awareness of reading strategies. Since the questions on the exams in Turkish Lesson are generally about reading comprehension, the use of metacognitive strategies concerning reading affects the results of these exams.

6. Conclusion

This study set out to determine the cognitive awareness of reading strategies of secondary school students. The second aim of this study was to investigate the relationship between the cognitive awareness of reading strategies and writing anxiety. The third aim of this study was to explore the common effect of some variables on cognitive awareness of reading strategies. The results of this study indicate that the cognitive awareness of reading strategies among secondary school students is good, and there is a negative correlation between this cognitive awareness and writing anxiety. This study has identified that verbal academic success can predict cognitive awareness of reading strategies, and it is unaffected by the common effects of gender and writing anxiety. Teachers and educators can consider the results of cognitive awareness of secondary school students' reading strategies while planning their lessons and reading activities.

Limitation

Due to the non-experimental nature of our research methodology, we are limited in the inferences and conclusions we can make from our data because we cannot deduce any causal relationships from them. This study is limited to 7th grade students studying in the city center of Afyonkarahisar city and the items on the scales used to collect data.

Recommendation

Teachers can use the results of the level of cognitive awareness of reading strategies of 7th graders and it is recommended that they benefit from this scale to have data for the level of their students' using of the reading strategies. After that they can put more emphasis on the reading strategies during the classes. The more students read books, the more they become proficient at comprehension skills. For these reasons, teachers should urge their students to read more books.

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Conflict of Interest

The researchers state that they have no known financial or interpersonal conflicts that would have appeared to have an impact on the study presented in this paper.

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