

The Relationship between Reading Comprehension and Writing Skills of Fourth Grade Students and Their Motivation to Read and Write

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Motivation is well-known to have a crucial influence on the growth and acquisition of language skills, including reading comprehension and writing. From this point of view, the goal of this study was to explore how 4th graders' reading comprehension, writing skills, and motivation to read and write are connected to each other. Conducted according to the correlational research design, the study consisted of a total of 581 students, 297 boys and 284 girls, studying at the 4th grade of the public primary schools located in the central districts of Kars, Konya, and Zonguldak provinces. Data collection tools included the "Reading Comprehension Test", "Motivation to Read Profile", "Motivation to Write Profile", and "Story Text Assessment Analytic Rubric". Data analysis results indicated that the reading comprehension scores of female and male students were close to each other with statistical significance in favour of female students considering the scores of story writing and of motivation to read and write. A major positive correlation was found between the motivation to read and its sub-factors and the sub-factors of motivation to write, as well as between the motivation to read and motivation to write. Furthermore, motivation to read was found to be a considerable predictor of the reading comprehension skill, while motivation to write was found to be a major predictor of the writing skill.

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Keywords: Reading motivation, writing motivation, primary school students, reading comprehension, writing skill

INTRODUCTION

The ability of individuals to obtain new information, communicate, and thus create healthy social bonds by using the ways of accessing information in both their educational and social lives seem to be closely linked to their correct and efficient use of basic language skills. Being among such language skills, listening and speaking are mostly used in preschool period through social interaction, yet a planned and systematic education is still needed for the efficient use of these skills. Moreover, learning about how to use the reading and writing skills is a process that often begins with primary education. Within this process, which is called the initial training of reading and writing skills in the first year of primary school, students are trained in such a way that they become able to use these skills more effectively in the following years whilst gaining basic reading and writing skills.

Reading begins with seeing, proceeds with attention and perception, and ends with comprehension in the brain, demanding multiple skills at once. At this point, reading takes on the role of sophisticated language ability (Kuşdemir & Bulut, 2018). The act of reading is also the process of constructing meaning in an organized setting, where prior knowledge is applied, based on the interplay between the author and the reader in accordance with a convenient method and purpose (Akyol, 2013). Being one of the important variables affecting the personal, academic, and social development of students, reading (Yıldız & Akyol, 2011) is one of the basic skills that should be acquired by students starting from the early years of primary school (Rose et.al, 2000).

The major aim of the reading skill is to develop the reading comprehension ability. In other words, the main purpose of reading is to explain the meaning the text read (Türkben & Gündeğer, 2021). Whether or not the expected benefit could be gained from reading largely depends on students' orientation to reading and understanding what they read (Yıldız & Akyol, 2011).

The process of reading comprehension might be characterized as being an active process that includes both the capability to understand the information in the text and the reader's own commentaries, as well as an operation in which the messages conveyed by the author are logically organized (Radojevic, 2006). In order for individuals to understand, interpret, and criticize information, that is, to be able to make use of information, they must first be able to understand what they read (Temizkan, 2008). Cognitive skills must be acquired beforehand to achieve reading comprehension (Kuşdemir & Bulut, 2018). It is also argued that reading comprehension is a complicated process that can be improved not only by describing written words and vocabulary, but also by employing language systems such as syntax and general knowledge (Gough-Kenyon et al., 2018).

Although reading comprehension is the product of a cognitive effort to utilize higher-order thinking skills such as reasoning, analysing, synthesizing, and evaluation, affective processes are known to play an important role in revealing the interest, curiosity, and enthusiasm for reading (Batmaz & Erdoğan, 2019). In other words, in order to better understand a child's behavioural patterns related to reading, it is necessary to consider social and affective dimensions as well as cognitive ones in reading (Güneş, 2007; Monteiro, 2013).

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Being one of these affective factors, “motivation” is defined by McLeod (1987) as “one’s inner impulses or drives toward the same goal”.

Motivation is considered as one of the critical factors that greatly influence language learning (Ahmadi, 2017). Reading requires motivation as it is an effortful activity, which is why children need to be motivated to participate in literacy activities in order to maintain their literacy skills for life (Baker & Wigfield, 1999). Cambria and Guthrie (2010) stated that a good reader is the one who has both skills and perseverance, which can only be achieved through motivation to read that develops with children’s tastes, desires, and interest in reading. For this reason, it can be argued that the development of reading comprehension skills requires motivational processes as well as cognitive processes, and that improving children’s capacity to understand texts depends not only on their cognitive levels, but also on their levels of motivation to read (Wang & Guthrie, 2004).

Reading motivation is described as an individual’s objectives (Yıldız & Akyol, 2011), values and beliefs that drive reading processes, outcomes, and themes (Guthrie & Wigfield, 2000) and is regarded as one of the most important components in the process of learning and improving how to read (Akyol, 2013). Reading motivation is considered as a multifaceted construct with more than one component (Guthrie et al., 2007). Reader self-perception, which is one of the components of the motivation to read, denotes how much individuals consider themselves competent regarding their reading skills (Ataş, 2015). The value ascribed to reading is another factor that sheds light on for how long and how frequently individuals read in their everyday lives.

Given the significance of reading comprehension in regard to general academic achievement, it is not surprising that scholars have been interested in the influence of reading motivation on reading comprehension (Yamaçet al., 2018). Previous studies have demonstrated that children in primary school who have a high reading motivation are more likely to spend more time reading than children who have a low reading motivation (Guthrie et al., 1999; Morrow, 1992; Wigfield & Guthrie, 1997). Furthermore, there is a direct relationship between children’s reading motivation and their ability to comprehend what they are reading (Ahmadi, 2017; Bråten et al., 2017; Wigfield et al., 2016). For children to mature into people who read for the rest of their lives, reading motivation proves to be an absolute necessity (Morrow, 1992; Wang & Guthrie, 2004). As an example, Monteiro (2013) emphasised the importance of creating a classroom environment that encourages children to participate in a reading activity so as to increase reading motivation and enable them to develop reading comprehension skills more actively and efficiently.

Through reading, students can both increase their knowledge and enrich their vocabulary. Since this richness is also reflected in their speaking skills, reading also turns out to contribute significantly to the development of expressive language skills (Yakıcı et al., 2006). One of these expressive language skills is “writing”.

Without a doubt, writing is a basic skill included in the expressive sphere of a language and forms the last stage of effective language learning, which is acquired through education similar to reading (Süğümlü et al., 2019). Defined as the ability of individuals to express their feelings, thoughts, dreams, impressions or experiences on a subject by following the basic rules of language within a certain planning framework, the writing skill (Göçer, 2013) actually includes many cognitive, affective and psychomotor skills (Baki, 2020; Bruning & Horn, 2000; Lam & Law, 2007). Motivation to write, which is one of the affective factors, refers to the context in which an individual resists the tendency to give up a writing activity and regulates his/her cognitive processes and behaviours in order to successfully complete the writing task (Nelson, 2007).

Being one of the dimensions of the motivation to write, writer self-perception is related to how competent individuals see themselves in terms of writing skills and is affected by students’ school life (Gander & Gardiner, 2001) and writing experiences in general. As another dimension of the motivation to write, the value attached to writing indicates how much a student cares and shows interest in a writing task.

According to research, the incentive to write plays a vital role in the improvement of writing abilities, and many researchers (Akyol & Aktaş, 2018; Aryanika, 2016; Baki, 2020; Graham, 2006; Troia et al., 2013) have reported it would be challenging for pupils to complete writing work without a strong motivation (Aryanika, 2016). The reason for such an outcome can be attributed to the fact that the motivation of the students becomes important in the development of their writing skills, which requires a process (Süğümlü et al., 2019). Writing, which includes various mental processes and different types of information such as genre,

subject, and target audience, is also shaped by the motivational state of the one who is writing (Graham et al, 2016).

Motivation plays a key role in the rapidly developing essential skill of literacy in primary school (Bozgün & Akın-Kösterelioğlu, 2022). Research has shown that there are studies examining the relationship between reading, reading comprehension and writing and motivation. The studies examining the connection between reading and reading comprehension along with motivation (Ahmadi, 2017; Baker & Wigfield, 1999; Batmaz & Erdoğan, 2019; Bråten et al., 2017; Cambria & Guthrie, 2010; Cartwright et al., 2016; Guthrie et al., 2007; Guthrie & Klauda, 2014; Katrancı, 2015; Kızgın, 2019; Koca, 2020; Kuşdemir & Bulut, 2018; Lin et al., 2012; McGeown et al., 2012; Monteiro, 2013; Schiefele et al., 2016; Türkben & Gündeğer, 2021; Wang & Guthrie, 2004; Wigfield & Guthrie, 1997; Wigfield et al., 2016; Yamaç & Çeliktürk-Sezgin, 2018; Yıldız & Akyol, 2011) have reported that motivation has a significant effect on reading and reading comprehension.

Studies investigating the relationship between the motivation to write and the writing skill (Aktaş, 2019; Akyol & Aktaş, 2018; Aryanika, 2016; Bozgün & Akın-Kösterelioğlu, 2022; Bruning & Horn, 2000; Canitezzer, 2014; Graham et al., 2017; Lam & Law, 2007; Pajares, 2003; Süğümlü, 2016; Süğümlü et al., 2019; Takımcıgil-Özcan, 2014; Troia et al., 2013; van Kraayenoord et al., 2011) have also reported the impact of motivation on the writing skill.

Reading and writing are considered as language skills that feed each other. Research shows that there is an important relationship between these two skills (Ağın-Haykır, 2012; Coşkun, 2010; Konopak et al., 1987; Squire, 1983; Uğur, 2018). Still, it appears that the number of studies on affective factors related to reading comprehension is very limited and that there are not enough studies on its relationship with the motivation to write and written expression skills. Besides that, no current study has been found in which such closely related skills as reading comprehension and writing are handled together with affective factors (motivation). For this reason, this study aimed to determine the relationship between primary school 4th grade students' reading comprehension and writing skills with reading and writing motivation. In accordance with this main purpose, the following research questions were sought to be answered:

1. Do 4th grade students' reading comprehension and their writing skills differ significantly by gender?
2. Does 4th grade students' reading and writing motivation differ significantly by their gender?
3. Is there a statistically significant relationship between 4th grade students' reading and writing motivation and their reading comprehension and writing skills?
4. To what extent does 4th grade students' reading motivation predict their reading comprehension skills?
5. To what extent does 4th grade students' writing motivation predict their writing skills?

METHOD

Research Design

This study examined the relationship between primary school fourth grade students' reading comprehension and writing skills and their motivation in this regard, and was conducted in line with the correlational research model. Correlational research model aims to determine the level of change or impact between two or more variables (Fraenkel&Wallen, 2009). In this respect, this study focuses on the relationship between the variables of reading comprehension and writing skills with the motivation to read and write.

Sample Group

The sample group consisted of a total of 581 students, 297 boys and 284 girls, who were studying in the 4th grade of primary school in the central districts of Kars, Konya, and Zonguldak provinces, and were selected according to the convenient sampling method to involve the voluntary participants in the schools where the researchers were able to access easily and quickly in the provinces where they resided. The purpose of this sampling technique is to select the subjects on the basis of convenience by involving the volunteer participants in the study (Patton, 2014). The reason for working with primary school 4th grade students in this study was that students were expected to have gained fluent writing skills and to have improved their awareness of literacy skills significantly through the final year of primary school. Moreover, another reason for collecting the research data from the 4th grade level was that the data collection tools used to evaluate the students' motivation to read and write consisted of aspects containing the awareness levels of the students for these skills (the self-perception of literacy skills and the value attached to literacy).

Data Collection Tools and Methods

Measurement of Reading Comprehension

The Reading Comprehension Test prepared by Bulut (2021) was used to determine the reading comprehension levels of the 4th grade students. The test consisted of two texts, namely narrative and informative. For each text, there were a total of 20 questions, 10 of which being multiple-choice. The Cronbach's alpha internal consistency method was used for the measurement reliability of the test and, as a result of the analysis; the Cronbach's alpha coefficient was .72 for the narrative text and .79 for the informative text. The results of the discrimination index analysis of the items indicated that the discrimination levels of the items ranged between 0.25 and 0.53.

Measurement of Writing Skills

The students' writing skills were evaluated on the basis of the stories they had written. For this purpose, "Story Text Assessment Analytic Rubric" developed by Kaya (2020) was used as an evaluation tool. The rubric is composed of six criteria, namely, "organization", "story elements (character, place, time)", "title", "language and expression", "word choice", and "presentation". The criteria in the analytic rubric were evaluated by weighted scoring, and the dimensions specific to the text type were evaluated with higher scores. In cases where the score values specified for the "organization" and "story elements (character, place, time)" (1 point, 3 points, 5 points) did not fully meet the text being examined, an interim scoring was made. "Title", "Language and Expression", "Word Choice", and "Presentation" criteria were assessed in the form of scoring from 1 to 3. The lowest score to be obtained from the Rubric was 6, with the highest being 22.

Measurement of Motivation to Read

The Motivation to Read Profile (MRP) scale adapted to Turkish by Yıldız (2013a) was used to determine the students' levels of motivation to read. The MRP consists of two basic tools, an 18-item Reading Questionnaire and a 14-question interview form, which can be administered to an age range of students varying from the 2nd grade of primary school to the 6th grade of secondary school. The Reading Questionnaire consisted of two factors, namely, "the value attached to reading" (9 items) and "reader self-perception" (9 items), and was used in the present study. The validity and reliability studies of the MRP scale were performed by Yıldız (2013a), and the Cronbach's alpha internal consistency coefficient was found to be .81. Other fit indices were also found to be within acceptable limits (RMSEA=0.070, RMR=0.36, and GFI=.85). Recalculated by the researchers, the Cronbach's alpha internal consistency coefficient was found to be .85. Such values showed that the scale had a valid structure to the extent that reliable measurements could be made.

Measurement of Motivation to Write

The Motivation to Write Profile (MWP) adapted to Turkish by Akyol and Aktaş (2018) was used to measure students' motivation to write. The MWP consisted of two parts, namely, the questionnaire and the interview, as a total of 26 items, which can be administered to students from 2nd grade to 6th grade. The Questionnaire section consisted of two factors: "the value attached to writing" (14 items) and "the writer self-perception" (12 items). As a particular dimension, the *value attached to writing* was classified into three subgroups such as narrative writing (3 questions), informative writing (3 questions), and general writing (8 questions). The *writer self-perception* as the other dimension was similarly divided into three subgroups such as narrative writing (4 questions), informative writing (4 questions), and general writing (4 questions). The Writing Questionnaire part of the scale was used in this study. The validity and reliability studies of the MWP scale were executed by Akyol and Aktaş (2018), and the Cronbach's Alpha internal consistency coefficient was found to be .89. Other fit indices were also found to be within acceptable limits (RMSEA=0.07, RMR=0.5, and GFI=.83). The researchers found the Cronbach's alpha value for the current study to be .89. Such values demonstrated that the scale had a valid and reliable structure.

Data Collection Process

Data was collected in the spring semester of the 2021/22 academic year in a period of 4 weeks from six different public schools located in the central districts of Kars, Konya, and Zonguldak provinces in such a way that the participants would have similar profiles in the middle socioeconomic level. Necessary permissions for the study were obtained from the National Education Directorates of each province included. In addition, the school administration, classroom teachers and students of the classrooms where the study would be held had been provided with necessary information about its content. Attendance in this study was on a voluntary basis. Prior to data collection, a meeting was held by the researchers so as to plan all steps of the data collection process, which was then executed in the same way by the researchers. In the present study, "Reading Comprehension Test", "Motivation to Read Profile", and "Motivation to Write

Profile” were used to as data collection tools. The students were given the task of writing a story so as to evaluate their writing skills, and their texts were scored accordingly, using the “Story Text Assessment Analytic Rubric”.

In order to collect reliable data, utmost attention was paid to collect each measurement tool at a different lesson hour. In addition, the measurement tools were administered to the students in a certain order. In the data collection process, which lasted 4 lesson hours in each class, the Motivation to Read Profile (30 minutes) was first administered in one lesson and then the Motivation to Write Profile (20 minutes) in another lesson. Since motivation-based scales are used an assessment tool applied within groups, the researchers read the scale items to the students twice, the first of which was to give the students the opportunity to think about the answer that they considered suitable, and the second to mark the answer they had chosen. Utmost attention was paid to ensure that each student answered the same question at the same time. Then, the Reading Comprehension Test (30 minutes) was administered in another lesson, and finally, students were asked to write a story about a topic they had chosen in another lesson within 40 minutes.

Data Analysis

Data were collected from a total of 625 students for this study. As a result of the first examination of the data, outlier analysis was performed, and 44 pieces of data were removed due to having been found to deviate from the mean and disrupted normality. The analysis was performed on 581 pieces of data. In the story scoring process, firstly, the researchers scored them separately and independently of each other to compare the obtained data. Comparisons of scoring and situations where researchers were in dilemma were reviewed, and researchers scrutinized the analyses until reaching a consensus on inconsistent findings. For the reliability of the study, the reliability formula of Miles and Huberman (1994) was used ($\text{Reliability} = \text{Consensus} / (\text{Agreement} + \text{Disagreement})$) and it was seen that reliability was achieved with 80% agreement. SPSS 15.0 statistical program was used for the data analysis during the research. The Independent Samples t-test was used to analyse whether or not reading comprehension and writing skills changed by gender. Furthermore, whether or not the motivation to read and write differed by gender was analysed with the Independent Samples t-test. In this connection, male and female students were evaluated as different groups and the differences between the average values of reading comprehension, writing skills, reading, and writing motivation variables were examined.

Pearson Correlation Analysis was performed to examine the relationships between the variables in the study. In the analyses, the tests were specified at .05 and .01 significance levels. Prior to the analyses, the conformity of the data to the normal distribution from the parametric test assumptions was examined. The most notable indicators of the normal distribution are the cases when the kurtosis and skewness coefficients remain in the range of -1 and +1, and the arithmetic mean, mode and median all coincide (equal or close) (Can, 2013, p.82). In this direction, the central tendency measures and normality values of the data are shared in Table 1.

Table 1. Measurements of Central Tendency and Normality Values of Data

Variables	N	Lowest	Highest	X	SS	Skewness	Kurtosis
Motivation to read	581	33	72	57.95	7.66	-.576	.041
Motivation to write	581	35	101	76.09	12.14	-.201	-.239
Reading Comprehension	581	1	20	14.57	3.83	-.905	.238
Writing skills	581	6	22	12.63	4.55	.187	-.932

As can be seen in Table 1, the Kurtosis-Skewness values of the variables are between -1 and +1, and the scores in the data set of the students show a normal distribution (Tabacnick & Fidel, 2015).

RESULTS

In this section, the data analysis results are presented in the order of the sub-problems.

1. Do fourth grade students' reading comprehension and writing skills differ significantly by gender?

The first sub-problem aimed to explore whether or not the scores of the students regarding reading comprehension and writing skills differed by gender. Table 2 presents the t-test results performed for this purpose.

Table 2. The Students' t-Test Results Regarding Reading Comprehension and Writing Skills by Gender

Variables	Female (284)		Male (297)		T	p
	X	S	X	S		
Reading comprehension	14.6	3.67	14.5	3.99	.157	.87
Story writing	13.7	4.39	11.5	4.44	5.94	.00*

As is shown in Table 2, there is no significant difference between male and female students in terms of reading comprehension scores ($p > .05$). The mean reading comprehension score for female students was 14.6, while it being 14.5 for male students. The reading comprehension skills of female and male students tended to be close to each other. As opposed to that, the average story-writing score of female students was 13.7, while it was 11.5 for male students, indicating a statistically major difference between female and male students in favour of female students ($p < .05$).

2. Does fourth grade students' motivation to read and write differ significantly by gender?

The second sub-problem of the study focused on whether the students' scores as regards their motivation to read and write differed according to gender. Table 3 presents the relevant t-test results.

Table 3. The t-Test Results of Students' Scores by Gender as regards their Motivation to Read and Write

Variables	Female		Male		T	p
	X	S	X	S		
Reader self-perception	28.6	4.30	27.9	4.32	2.08	.03*
Value attached to reading	30.5	3.84	28.8	4.79	4.51	.00*
Total motivation to read	59.1	7.14	56.7	7.97	3.78	.00*
Writer self-perception	37.2	6.54	33.9	6.90	5.97	.00*
Value attached to writing	41.6	5.73	39.3	6.38	4.53	.00*
Total motivation to write	78.9	11.3	73.3	12.3	5.72	.00*

As presented in Table 3, there is a significant difference between male and female students in favour of female students in the scores of "reader self-perception", "value attached to reading", and "total motivation to read", which are the sub-factors of reading motivation ($p < .05$). There is likewise a significant difference between male and female students in the scores of "writer self-perception", "value attached to writing" and "total motivation to write", which are the sub-factors of writing motivation ($p < .05$). The female students' mean score on motivation to read was found 59.1, while that of male students was 56.7. Similarly, the mean score of female students' motivation to write was 78.9, while that of male students was 73.3.

3. Is there a statistically significant relationship between fourth grade students' motivation to read and write and their reading comprehension and writing skills?

The third sub-problem of the study was designed to examine whether or not there was a significant relationship between students' motivation to read and write and their reading and writing skills. Table 4 demonstrates the relevant analysis results.

Table 4. Correlation between variables

Variables	1	2	3	4	5	6	7	8
1. Reader self-perception	--							
2. Value attached to reading	.53**	--						
3. Total motivation to read	.87**	.87**	--					
4. Writer self-perception	.63**	.58**	.69**	--				
5. Value attached to writing	.49**	.64**	.64**	.71**	--			
6. Total motivation to write	.60**	.65**	.72**	.93**	.91**	--		
7. Reading comprehension	.23**	.04	.15**	.02	-.02	.00	--	
8. Writing skill	.22**	.08*	.17**	.15**	.08*	.13**	.46**	--

* $p < .05$, ** $p < .01$

Pearson product-moment correlation analysis was performed to examine the correlational relationships between the variables. As presented in Table 4, as a result of the correlation analysis conducted to examine the relationship between the motivation to read and other variables, it turned out that the motivation to read variable had a significant, positive, and high correlation with the reader self-perception ($r = .87$) and the value attached to reading ($r = .87$), as well as a significant, positive, and moderate correlation with the writer self-perception ($r = .69$) and the value attached to writing ($r = .64$), while having a positive, significant and low correlation with the variables of reading comprehension skills ($r = .15$) and writing skills ($r = .17$). Given the relationships between the variables, it appeared that there was a negative, significant and low correlation between only the reading comprehension skill and the value attached to writing, which is one of the sub-factors of the motivation to write ($r = -.02$).

4. To what extent does fourth grade students' motivation to read predict their reading comprehension skills?

The examination of the fourth sub-problem of the study aimed to explore to what extent the students' motivation to read predicted their reading comprehension skills. Table 5 shows the relevant analysis results.

Table 5. Simple Regression Analysis on Predicting Reading Comprehension

Variables	B	T	p
Value attached to reading	.45	1.095	.27
Reader self-perception	.23	5.797	.00***
Total motivation to read	.15	3.864	.00***

*** $p < .00$, ** $p < .05$

Value Attached to Reading ($R^2 = .002$) / Reader Self-Perception ($R^2 = .055$) / Motivation to Read ($R^2 = .025$)

As can be seen in Table 5, the outcomes of the simple linear regression analysis performed to reveal how the students' motivation to read predicted their reading comprehension skills specified that the motivation to read was a major predictor of reading comprehension skills ($B = 0.15$, $p < .001$). Moreover, it seemed that "reader self-perception", which is one of the sub-factors of motivation to read, predicted reading comprehension skills ($B = 0.23$, $p < .001$), but the factor "value attached to reading" failed to predict it ($B = .45$, $p > .001$). The total score for the motivation to read accounted for 2.5% of the variation in reading comprehension skills ($R^2 = .025$). It can be assumed that the influence of the motivation to read in explaining reading comprehension skills is very low, yet it is still a significant predictor of it.

5. To what extent does fourth grade students' motivation to write predict their writing skills?

The fifth sub-problem of the study aimed to examine the extent to which students' motivation to write predicted their writing skills. Table 6 illustrates the relevant results of the analysis.

Table 6. Simple Regression Analysis for Prediction of Writing Skills

Variables	B	T	p
Value attached to writing	.088	2.114	.03**
Writer self-perception	.159	3.863	.00***
Total motivation to write	.135	3.276	.00***

*** $p < .001$, ** $p < .05$

Value Attached to Writing ($R^2 = .008$) / Writer Self-Perception ($R^2 = .025$) / Motivation to Write ($R^2 = .018$)

The results of the simple linear regression analysis conducted to reveal how the students' motivation to write predicted their writing skills (story-writing) indicated that the motivation to write was a significant predictor of the writing skill ($B = 0.13$, $p < .001$). It appeared that the "writer self-perception" ($B = 0.15$, $p < .001$) and "value attached to writing" ($B = 0.08$, $p < .05$), which are sub-factors of the motivation to write, had predicted the writing skills. The total score of motivation to write accounted for 1.8% of the variation in writing skills ($R^2 = .018$). It can be asserted that the impact of motivation to write in explaining the writing skill is very low, but can be considered as a significant predictor.

CONCLUSION, DISCUSSION and RECOMMENDATIONS

The aim of the present study was to investigate the relationship between primary school fourth grade students' reading comprehension with writing skills as well as taking into consideration the extent of their motivation. The results were discussed in comparison to those of other relevant studies conducted on variables similar to those used in this study, and relevant suggestions were made to future researchers and teachers in the light of the results.

In the first sub-problem of this study, reading comprehension and writing skills of elementary school fourth grade students were discussed in terms of gender. The findings demonstrated that there was no major difference between the reading comprehension scores of students, though the scores of female students were higher than those of male students in terms of story-writing skills. As an example, according to Sever (2004), the development of reading comprehension skills contributes to one's vocabulary skills so much that the individual can write better. This clearly shows that reading comprehension and writing skills are interrelated. Nevertheless, less time is allocated to writing, even though it is a very skill that needs to be acquired, when compared to other language skills (Karakoç-Öztürk, 2012). However, the development of the writing skill is often left to the individual's will and work rather than a systematic progression, unlike the reading and reading comprehension skills. Considering the relationship between reading comprehension and writing skills, and the lack of time devoted to writing skills, the results seemed to indicate that female students were more eager to write, enjoy writing, and express themselves more easily in writing when compared to male students. Research shows that many studies conducted at different grade levels for both skills reported similar results (Asgarabadi et al., 2015; Oda & Abdul-Kadhim, 2017). In this context, Kaya and Yıldırım (2018) stated that the gender factor had no impact on the reading comprehension achievement of seventh grade students, a result similar to what was put forward by Baştuğ and Keskin (2012), reporting the same for fifth grade students.

In another example by Katırcı-Ağaçkaran (2016), who conducted a study with primary school first grade students, the authors examined the reading comprehension and reading speed of students in terms of diverse variables. The relevant results indicated no major difference in reading comprehension achievement scores in terms of gender variable.

Research shows that many studies in the literature reported similar results to those obtained in the present research in terms of story writing skills (Arıcı & Urgan, 2008; Berninger et al., 2008; Karaca, 2019; Pajares et al., 1999; Pajares & Valiante, 2001; Tüfekçioğlu, 2010; Türkben, 2021). Furthermore, Ağin-Haykır (2012) investigated the relationship between students' reading comprehension skills and written expression skills in a study conducted with secondary grades and reported that female students turned out to be more successful in written expression skills than male students. Another similar study concluded that the skills of writing narrative texts were in favour of females in terms of gender (Başkan, 2019). Arı (2010) found that female students were more accomplished than male students at both grade levels in terms of writing texts in a study carried out with 623 students.

In the second sub-problem of the study, the 4th grade students' motivation to read and write was discussed in terms of gender. The results pointed that female students' scores for the motivation to read were higher than those of male students, and likewise, female students scored higher than male students in the sub-factors of the motivation to read, namely, "reader self-perception", and "value attached to reading". O'Garro (2017) concluded that girls' motivation to read was higher than that of boys and that there was a significant and positive connection between the motivation to read and reading comprehension levels in fourth and fifth grade students at primary school.

Furthermore, the female students' scores for their motivation to write were higher than those of the male students, and female students scored higher than male students in "writer self-perception" and "value attached to writing", which are sub-factors of the motivation to write. Past research has demonstrated that there are many studies with similar results (Baki, 2020; Bozgün & Akın-Kösterelioğlu, 2022; Kızgın & Baştuğ, 2020; Malecki & Jewell, 2003; Pajares & Valiante, 2001; Sani et al., 2011; Troia et al., 2013; Türkben, & Gündeğer, 2021; Wigfield & Guthrie, 1997; Yıldız, 2010). As stated by Chen (2001), motivation is one of the important factors that the student should possess in the education process. Motivation is of critical importance especially in primary school age when literacy development is rapid (Bozgün & Akın-Kösterelioğlu, 2022). As a matter of fact, relevant studies also suggest that language skills and motivation are indeed closely related to each other. Takımcıgil-Özcan (2014) reported a relationship between writing skills and the motivation to write, along with the female students' scores for story writing and motivation to write being higher than those of male students. In another study with similar results, data were collected from 618 students between the fourth and tenth grades, excluding the eighth grades, using a writing activity and the motivation to write scale. In this connection, what was found is that female students and older students wrote better quality articles and their motivation to write seemed higher. Akyol and Aktaş (2018) reported in

their study with fourth grade students that female students' writing motivation and story writing skills were higher than those of male students.

In the first two sub-problems, the reason for the conclusion that female students appeared more successful could be explained by arguing that the activities aimed at improving literacy skills at primary school may have been more suitable for meeting the expectations of girls (Brozo, 2002).

The third sub-problem of the study aimed to discuss the relationship between the fourth-grade students' motivation to read and the motivation to write as well as their reading comprehension and writing skills. In light of the results obtained, a significant, positive and moderate correlation was found between the motivation to read and its sub-factors and those of the motivation to write. Furthermore, a significant, positive, and high correlation was observed between the motivation to read and the motivation to write. As Arıcı and Taşkın (2019) stated, being a language skill itself, reading is directly related to other language skills. It can thus be assumed that motivation- a concept associated with the tendency to read and write- will increase at the same rate depending on both skills unless there are any other variables to disrupt the environment. The fact that no study has been found in the literature regarding this result indicates that this study has made a significant contribution to the relevant literature. In addition, a weak, positive, and major correlation was found between the motivation to read, reading comprehension, and writing skills. Scott (2009) reached a similar conclusion in a study conducted in this context. However, as Stotsky (1983) pointed out, good readers are inclined to be better writers, and good writers are inclined to read more than poor writers. In this study, a weak negative and major correlation was found only between reading comprehension skills and the value attached to writing, which is one of the sub-factors of the motivation to write.

The fourth sub-problem of the research discussed the extent to which fourth graders' motivation to read predicted their reading comprehension skills. According to the results, although the motivation to read seemed to have a very low impact on explaining the change in reading comprehension skills, it was still a significant predictor of such skills (Ahmadi, 2017; Ahmadi et al., 2013; Batmaz & Erdoğan, 2019; McGeown et al., 2012; Guthrie & Klauda, 2014; Lin, Wong, & McBride-Chang, 2012; Taboada & Buehl, 2012; Taboada et al., 2009). Having reached similar results, Yıldız (2013b) stated that the motivation to read directly and significantly affected reading comprehension. In another study, Kuşdemir and Bulut (2018) investigated the correlation between comprehension and the motivation to read in a study conducted with 421 fourth grade students and concluded that there was a positive, moderate, and significant correlation between the two variables. Another study (Cartwright et al., 2016) conducted with 68 students focused on the students' reading skills, verbal abilities, and the motivation to read. In this connection, it was concluded that the motivation to read contributed to reading comprehension. Furthermore, in another study dealing with the correlation between reading comprehension and motivation (Guthrie et al., 2007), the authors investigated the role of motivation in improving reading comprehension skills of at-risk first-year students. Twenty children at risk were included in the reading comprehension intervention program, on condition that they were instructed through one-on-one tutorials. In terms of motivation, both teachers and students were divided into four groups. The students' reading comprehending skills appeared higher in the group of students and teachers with higher motivation to read. In another study (Schiefele et al., 2016), however, involving a large sample group, the motivation to read and reading comprehension performance of 1051 students were measured twice a year in an effort to examining the relationship between the two. The study concluded that although students were at an early age in terms of learning, their motivation to read contributed greatly to the development of reading proficiency.

Finally, the fifth sub-problem of the study aimed to explore the extent to which fourth grade students' motivation to write predicted their writing skills. Although the motivation to write had a very low impact on explaining writing skill, it was still a significant predictor of writing skills. Hidi and Boscolo (2006, p. 152) stated that a student with weak writing skills may have a lower motivation level and may often feel anxiety about writing. Aryanika (2016) similarly mentioned the presence of a positive correlation between the motivation to write and written expression. Süğümlü et al. (2019), conducted a study with 230 students and concluded that students with high motivation to write also have high writing assessment scores. Lam and Law (2007) also stated that secondary school students were more successful in writing provided that their motivation to write remained high.

This study dealt with reading comprehension and writing skills, which are essential for the development of literacy skills in primary school, and with the motivation to read and write, which expresses the affective aspect of these skills, by examining the relationship between these variables. It is hoped that this study's findings will provide direction for the researchers of further studies of this nature. Based on our findings and results, some recommendations are presented below for future researchers and teachers.

Recommendations for researchers

This study collected data in three different cities so as to address the connection between reading comprehension, writing skills, the motivation to read and write. The relevant literature review shows that studies that dealt with different language skills all together remained insufficient. In future studies, four basic skills can be associated with affective characteristics such as motivation and attitude or with different cognitive characteristics and the number of cities and students can be increased to obtain more general data. Moreover, future studies can be conducted by considering the same variables at different grade levels. Qualitative data collection tools can also be included to obtain more valid and reliable results.

Recommendations for teachers

Our results have shown that students' writing skills lag behind their reading comprehension skills. Future activities can therefore be conducted to develop these skills, considering that all language skills are interconnected. As is the case in many studies, it was concluded that writing skills and the motivation to write were higher in girls than in boys. By observing their students in the classroom environment, teachers can plan particular in-class activities in which especially male students can participate more actively in the process. It is clear that reading comprehension, writing skills and the motivation to read and write are interrelated. Considering this situation, Turkish lessons can be planned in such a way as not to disregard the fact that the development of each language skill will affect the other.

Limitations

The collection of data from only three different provinces (Kars, Konya, and Zonguldak) can be considered as the first limitation of the present study. Secondly, the study included only fourth-year students and the data were collected cross-sectionally. Future research can be enriched with qualitative data, and longitudinal studies can be included in order to examine in depth how the relationships between variables affect each other. Finally, students' writing skill levels were limited to their story-writing performances. A variety of writing exercises can be done for different types of text.

Declarations

Conflict of Interest

No potential conflicts of interest were disclosed by the author(s) with respect to the research, authorship, or publication of this article.

Ethical Approval

This study was conducted on the approval of the Ethics Committee at Selçuk University, Faculty of Education dated 15.02.2022 and numbered 22.

This material is the authors' own original work, which has not been previously published elsewhere. The paper reflects the authors' own research and analysis in a truthful and complete manner. The results are appropriately placed in the context of prior and existing research. All sources used are properly disclosed.

Contribution Rates of Authors to the Article

The authors have contributed equally to this work.

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