




Discussion of the Relationship between Fluent Reading Skills and Reading Comprehension*

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ABSTRACT

This study aims to examine the relationship between reading speed, accurate reading, prosodic reading, and reading comprehension skills, as well as to show the current state of affairs. The study group for the document review-based research consists of publications published between 2011 and 2022 that examine the association between fluent reading and reading skills in Web of Science, Trindex, Google Scholar, and Eric. According to the "Inclusion Criteria" developed by the researchers, fifteen studies were included in the research for analysis after being pre-evaluated. When the studies comprising the study group were examined using the collected codes, it was revealed that there was a strong association between reading accuracy, reading speed, prosodic reading, and reading comprehension. In other words, there is a linear link between these skills that are supposed to be acquired during the read-write process, and these talents are complementary. Therefore, it is recommended to raise awareness and place a greater emphasis on these skills to guarantee that they are acquired optimally during elementary school.

Keywords:

Fluent reading, reading speed, accurate reading, prosodic reading, reading comprehension.

1. Introduction

The basic language skills that an individual must acquire in order to survive can be discussed under two headings: Comprehension and expression skills. Listening and reading skills are related to comprehension; while speaking and writing skills are related to expression (Doğan, 2020). The ability to read, which is one of the comprehension skills, is being acquired as requested from the first grade of primary school (Bastuğ, 2021). According to Arıcı (2018) and Ziegler and Goswami (2005), reading is the process by which a person develops their own unique comprehension of the text that they are interacting with. In a different definition, reading is described as the process of understanding and deciphering the text in line with certain goals (Cline, Johnstone & King, 2006). To achieve the purpose of reading, the individual must understand the text that they are reading (Rasinski, Blachowicz & Lems, 2006; Şahin, 2011). It can be said that individuals who pass this process efficiently are expected to have a good level of ability to read and understand fluently. It can be said that both reading comprehension skills and fluent reading skills contribute to the individual's academic success as well as to the ability to read effectively.

Fluent reading includes accurate reading, reading speed, and prosodic reading skills (Başaran, 2013; Hasbrouck & Tindal, 2006; Hudson, Lane & Pullen, 2005; Kuhn, 2005; Samuels, 1997). The percentage of accurate reading is calculated by dividing the number of accurately pronounced words by the total number of

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words read and then multiplying the result by 100. The reading speed is often expressed as the average number of words read accurately within one minute or as the accurate number of words spoken during the first minute of reading (Massey, 2008). Prosodic reading is defined as the music of the language of speech (Allington, 1983; Dowhower, 1991). Accurate reading and reading speed skills are considered prerequisites for prosodic reading (Wilger, 2008). In other words, it can be said that an individual must read the text accurately and at the appropriate speed to achieve sufficient prosodic reading capability (Akan, 2021).

While reading a text, a person with proficient prosodic reading skills reads fluently in accordance with emphasis, tone, and punctuation (Bastuğ & Demirtaş-Şenel, 2020). Given these elements of the prosody, it is expressed that prosodic reading is an important skill in improving fluent reading and plays an active role in reading comprehension (Kuhn & Stahl, 2003). It is also suggested that the reader, whose ability to read fluently does not reach a sufficient level, may have difficulty understanding what s/he is reading (National Reading Panel, 2000). Considering a different study, it has been determined that individuals who can achieve a fluent reading can recognize and comprehend words quickly. But as for the ones who could not truly master the skill of fluent reading, they are unable to fully understand the text, due to the main focus on recognizing the word (Armbruster, Lehr & Osborn, 2001). Understanding the text is defined as a process of signification and comprehension of a text with all aspects (Karatay, 2014). According to a different definition, comprehension is the integration of information in the read text with the individual's existing knowledge, thereby making sense (Yıldız, 2013).

It is suggested that fluency is critical for successful reading (Gorsuch & Taguchi, 2010) and fluency is necessary for reading comprehension (Lloyd-Eldredge, 2005). Therefore, it is important to consider these skills together in studies. In the literature review, although there are many studies on accurate reading, reading speed, prosodic reading, and reading comprehension skills, no document analysis study has been found that deals with these skills. Therefore, it is anticipated that the analysis, synthesis, and evaluation of the work performed regarding these skills will contribute to the body of knowledge. This study aims to discuss the relationship between reading speed, accurate reading, prosodic reading, and reading comprehension skills by uncovering an existing situation. To this end, we will try to find answers to those research questions.

- What are the findings of the relationship between accurate reading, reading speed and prosodic reading skills?
- What are the findings regarding the relationship between fluency and reading comprehension skills?

2. Methodology

2.1. Research Model

In this research, the document review method was used. In addition to being used as an additional source of information in the studies using other methods, the document study, which can be used as a single research method, contains the analysis of written materials that have information relating to the fact or facts aimed to be investigated (Yıldırım & Şimsek, 2021). Written materials are important data sources that are referenced in qualitative research (Cansız-Aktaş, 2019). Researchers often review previous studies and discuss the information obtained from these studies in their research (Bowen, 2009). Document review facilitates the objective, consistent, meticulous, and systematic analysis of the contents of the written documents handled in this process (Wach & Ward, 2013). Therefore, in this research, we opted for the document examination method; enables us to conduct an impartial, convenient, rigorous, and systematic investigation and analysis of the addressed research, which considers the relationships between fluent reading and reading comprehension skills.

2.2. Data Collection Process

In the data collection process of the research, first, the keywords were determined as "fluent reading", "accurate reading", "reading speed", "prosodic reading" and "reading comprehension". Tr-Index, Google Scholar, Web of Science and Eric databases were scanned within the framework of these determined keywords. The headings and summaries of the studies found in these databases have been read, and the research directly related to the subject matter have been reached. Researches involving the keywords have been combined and a preliminary examination was made. Thirty studies have been selected for analysis as a result of the pre-assessment, taking into account the criteria used in selecting articles written while scanning the relevant

literature. Before the analysis, the studies were thoroughly read, and those that did not comply with the research's purpose or did not meet the selection criteria were excluded from the study group. In the research, fifteen articles that met the research's objectives and selection criteria were utilized.

Table 1. Criteria used in the selection of research

Being published in the specified years	It has been paid attention that the articles reviewed have been published between 2011-2022.
Containing the keywords that reflect the main purpose of the research and research questions	It has been paid attention that the research includes the keywords "fluent reading", "accurate reading", "reading speed", "prosodic reading" and "reading comprehension".
Being published in selected databases	Articles and theses in the Eric, Tr-Index, Google Scholar, and Web of Science databases have been utilized. The information obtained was evaluated and interpreted in the scope of the research.

Features of Study Resources. The articles included in the document review are coded as "M1, M2, ..., M15" (Appendix.1). This code sequence is considered in the analyses carried out. Later, within the scope of the research, the year, research model, sample, sample size, and the index where it was scanned for each article were presented in Table 2.

Table 2. Workgroup attributes

Research Code	Year	Research Model	Sample Type		Sample Size			Scanned Index			
			Elementary (1-8)	Secondary (9-12)	Between 0-150	Between 151-300	Between 301-500	Tr-Index	Scholar	Wos	Eric
M1	2017	-	✓				✓			✓	
M2	2012	Survey Model	✓		✓			✓			
M3	2019	Correlational Survey Model	✓				✓		✓		
M4	2017	Correlational Survey Model	✓		✓				✓		
M5	2018	Predictive Correlational Research	✓		✓						✓
M6	2013	Correlational Survey Model	✓		✓						✓
M7	2019	Correlational Survey Model	✓		✓				✓		
M8	2013	Correlational Survey Model	✓		✓				✓		
M9	2016	-	✓		✓					✓	
M10	2020	Experimental Model	✓		✓						✓
M11	2014	-		✓	✓						✓
M12	2017	Correlational Model	✓		✓						✓
M13	2018	-	✓				✓			✓	
M14	2022	Correlational Survey Model	✓		✓					✓	
M15	2022	Correlational Model	✓		✓					✓	

When the studies included in the document review are examined, it is seen that they are mostly carried out with the correlational scanning model. When considering sample type, almost all the studies were conducted with primary school students (n=14), and one study was conducted with secondary school students. Twelve studies have samples within the range of 0-150, while three studies have samples within the range of 301-500. In addition, the distribution of these studies in the study group has been holistically presented in Figure 1 over the years.

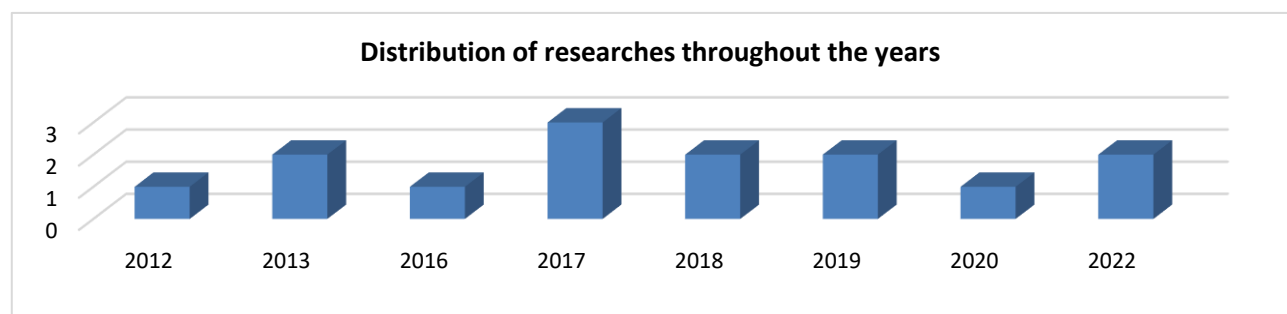


Figure 1. *Distribution of Studies Included in the Study Group by Years*

Considering the distribution of the studies included in the study group by years, only one study was conducted in 2012, 2016 and 2020, two studies in 2013, 2018, 2019 and 2022, and three in 2017.

2.3. Data Analysis Process

As a result of the scan, the skills of fluent reading and the studies on reading comprehension have been reviewed within the framework of the research questions. Fifteen studies were evaluated, and the MAXQDA program in pdf format put them together. Then they were analyzed, and codes were determined. During the analysis of the data, in line with the contents of the research, "accurate reading- reading comprehension", "reading speed-accurate reading", "reading speed-reading comprehension", "prosody-accurate reading", "prosody-reading speed", "prosody-reading comprehension" codes have been generated. Within the framework of the generated codes, the texts have been read from beginning to end, and coded phrases have been reviewed again.

2.4. Validity and Reliability

The validity and reliability measures taken in this study are presented holistically in Table 3.

Table 3. *Validity and reliability measures taken in the study*

Strategy	Precaution	Application
Internal Validity (Credibility)	Expert Review	To ensure the study's credibility, expert opinion has been sought in the data analysis process.
External Validity (Transmissibility)	Detailed Description	All stages of the study are presented to the reader in a clear, understandable, detailed, and impartial manner. The researchers have stored all data, analysis, and all related documents to verify the research results.
External Reliability (Confirmability)	Verifiability of the Research	The studies that constitute the study group of the research are provided as an attachment. The criteria used in selecting the studies that were examined within the scope of the purpose and the number of studies are specified.

3. Findings

In this section, the relationship between fluent reading and reading comprehension skills was determined and presented using fifteen research papers from the study group.

Table 4. *Findings regarding the research conducted on skills of reading speed and accurate reading*

Researching Codes	Skills	
	Reading Speed	Accurate Reading
M2	There is a medium level of relationship.	
M14	There is a meaningful relationship	
M15	There is a positive relationship at the medium level.	

According to Table 4, there have been three studies examining the relationship between reading speed and reading accuracy. When the studies are examined, it is seen that there has a moderate relationship between these skills in study coded M2, a significant relationship in the research coded M14, and a positive relationship at the medium level. in the research coded M15. Although there are only three studies in the literature dealing with the relationship between these skills, based on these findings, it can be said that there is a meaningful relationship between "reading speed" and "accurate reading" skills. Moreover, it can be expressed that there is a linear relationship between these skills.

Table 5. *Findings regarding the research conducted on skills of prosodic reading and accurate reading*

Researching Codes	Skills	
	Prosodic Reading	Accurate Reading
M2	There is a meaningful relationship at the medium level.	
M5	There is a meaningful positive relationship.	
M13	There is a meaningful relationship.	

Examining Table 5 reveals that three studies examine the relationship between "prosodic reading" and "accurate reading" abilities. In a study in the literature (M2), it was revealed that there was a moderate relationship, a positive relationship in one study (M5), and a meaningful relationship in one study (M13). Although there are only three studies in the literature dealing with the relationship between these skills, based on these findings, it can be said that there is a meaningful relationship between "prosodic reading" and "accurate reading" skills.

Table 6. Findings regarding the research conducted on skills of prosodic reading and reading speed skills

Researching Codes	Skills	
	Prosodic Reading	Reading Speed
M2	There is a high level of relationship.	
M3	There is a positive relationship at a medium level.	
M12	There is a strong positive relationship.	
M13	There is a meaningful relationship.	

As shown in Table 6, four studies address the skills of "prosodic reading" and "reading speed". When these studies are examined, it is stated that between "prosodic reading" and "reading speed" skills there is a high-level relationship in M2-coded research, a moderate level in M3-coded research, a strong positive relationship in M12 and a significant level of relationship in M13 coded studies. From these findings, it can be stated that there is a meaningful relationship between these skills.

Table 7. Findings regarding the research conducted on skills of accurate reading and reading comprehension skills

Researching Codes	Skills	
	Accurate Reading	Reading Comprehension
M2	There is a moderate relationship.	
M5	There is a significant positive relationship.	
M8	There is a significant relationship.	
M13	There is a significant relationship.	
M14	There is no significant relationship.	

When Table 7 is reviewed, five studies address the relationship between accurate reading and reading comprehension. When these studies in the literature are examined, it is seen that between "accurate reading" and "reading comprehension", there is a positive relationship in M5-coded, medium in M2, and meaningful in M8 and M13-coded studies. In contrast to these studies, the M14-coded study found that there is no meaningful relationship between these skills. From these findings, it can be stated that there is a meaningful relationship between "accurate reading" and "reading comprehension" skills.

Table 8. Findings regarding the research conducted on reading speed and reading comprehension skills

Researching Codes	Skills	
	Reading Speed	Reading Comprehension
M2	There is a high level of relationship.	
M6	There is a weak relationship.	
M8	There is a significant relationship.	
M10	There is a significant positive relationship.	
M11	There is a weak relationship.	
M12	There is a significant relationship.	
M13	. There is a significant relationship.	
M14	There is no significant relationship.	
M15	There is a positive significant relationship.	

When Table 8 is examined, we see that nine studies have been carried out that address the skills of "reading speed" and "reading comprehension". When we look at the studies, it is seen that relationship between "reading speed" and "understanding reading" skills there is a high level of relationship in one study (M2), a weak level in two studies (M6, M11), a positive relationship in two studies (M10, M15) and a significant relationship in three studies (M8, M12, M13). In contrast to these studies, the M14-coded study concluded that any relationship does not exist. According to the findings, it is possible to state that there is a meaningful and linear relationship between the "reading speed" and "reading comprehension" skills.

Table 9. Findings regarding the research conducted on prosodic reading and reading comprehension skills

Researching Codes	Skills	
	Prosodic Reading	Reading Comprehension
M1	There is no meaningful relationship between the 4th and 5th grades, but there is a meaningful relationship between the 6, 7th, and 8th grades.	
M2	There is a high level of relationship.	
M4	There is a positive relationship at a medium level.	
M7	There is a weak level of a positive relationship.	
M8	There is a meaningful relationship.	
M9	There is a meaningful relationship.	
M12	There is a meaningful relationship.	
M13	There is a meaningful relationship.	
M14	There is a positive relationship at a medium level.	

When Table 9 is examined, we see that nine studies on "prosodic reading" and "reading comprehension" skills were conducted. According to the research, it is suggested that there is a high level of relationship between these skills in M2 coded research, a moderate level of relationship in M4 and M14-coded studies, a weak level of relationship in M7-coded research, and a meaningful relationship in M8, M9, M12 and M13 coded studies. In the M1 coded study, however, no relationship was found between these skills for the 4th and 5th-grade levels, but it was stated that there was a significant relationship for the 6, 7th, and 8th grades. The reason for this is thought to be due to the fact that the reading skills of the 4th and 5th-grade students may not be fully acquired. Based on this finding, it can be said that there is a significant relationship between "prosodic reading" and "reading comprehension" skills.

The purpose of the research was to reveal the relationship between fluent reading skills (reading speed, accurate reading, prosodic reading) and reading comprehension skills. The document analysis revealed that there was a significant relationship between reading speed, accurate reading, and prosodic reading skills in almost all the studies in the literature. Furthermore, it has been established that there is a meaningful relationship between fluent reading skills and reading comprehension skills.

4. Conclusion, Discussion and Recommendations

The purpose of this study is to examine the relationships between reading speed, accuracy, prosodic reading, and reading comprehension skills. This study was designed to shed light on an existing situation. When we examined the research, we discovered that there was a significant relationship between reading accuracy, reading speed, and prosodic reading skills. When the results of the studies in the literature are examined, it is seen that they support the results of this research (Dowhower, 1987; Schwanenflugel et al., 2004). In contrast to these studies, however, Bigozza et al. (2017) found that there was no significant relationship between reading speed and reading comprehension.

Except for one study, all studies on fluent reading skills and reading comprehension skills concluded that there was a significant relationship between these skills (M14). Therefore, it was concluded that there is a significant relationship between accurate reading, reading speed, prosodic reading skills with reading comprehension skills. Looking at the research, a study of 171 students in the second, third, and fifth grades concluded that there is a significant relationship between fluent reading and reading comprehension skills (Quirk & Beem, 2012). In addition, in line with the findings of the study by Padeliaou and Antoniou (2014), it was suggested that fluent reading skills affect reading comprehension. The results of the research conducted by Quirk and Beem, (2012), Padeliaou and Antoniou (2014), and Fuchs, Fuchs, Hosp and Jenkins (2001) appear to coincide with the results obtained from this study. Moreover, it was concluded that there is a significant relationship between prosodic reading and reading comprehension skills in different studies in the literature (Kariuki & Baxter, 2011; Ravid & Mashraki, 2007).

In line with the results obtained from this study, it is seen that there is a significant relationship between accurate reading, reading speed, prosodic reading, and reading comprehension skills. Therefore, to gain these skills in the best way from primary school age, it is recommended to raise awareness, and focus more on these skills. In addition, it can be said that there are very few studies that address accurate reading skills together with prosodic reading and reading speed skills, and new studies addressing these skills are needed.

5. References

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Annex 1. Code Names Related to Studies

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