

Exploring the Effectiveness of Digital Reading Platforms in Developing Reading Comprehension Skills

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Abstract:

This research explores how effectively the ReadWorks digital reading platform enhances the reading comprehension abilities of high school students. A within-subject design was employed, wherein students experienced two phases of treatment: the use of conventional teaching methods and the application of the ReadWorks platform, with a washout period in between to minimize carryover effects. This research was conducted with second-grade students at SMA Negeri 16 Samarinda, using a standardized reading comprehension test to assess their performance. Data analysis was performed using paired samples t-tests. The results indicated a notable improvement in students' reading comprehension scores when utilizing the ReadWorks platform, in contrast to traditional methods. The statistical analysis demonstrated that the p-values for both the experimental group ($p = 0.000$) and the control group ($p = 0.000$) were below the significance threshold of 0.05, resulting in the rejection of the Null Hypothesis (H_0) and the acceptance of the Alternative Hypothesis (H_a). These findings suggest that the ReadWorks platform is effective in enhancing reading comprehension abilities among high school students. This study adds to the expanding body of research supporting the integration of digital tools in education to enhance student learning outcomes.

Keywords: *Digital Reading Platforms, Reading Comprehension, ReadWorks*

1. INTRODUCTION

English proficiency is built upon the fundamental skills of reading, listening, speaking, and writing (Brown, 2007), all of which are crucial for achieving fluency. Among these skills, reading stands out as particularly important, as noted by Nunan, (2003). For students, mastering reading is essential, as it significantly contributes to progress and growth in various other areas of knowledge. Reading is the most crucial language skill because it is the base of knowledge (Birch & Fulop, 2020), and upon mastery, students will gain the capability to apply it across various contexts, including both academic and non-academic settings. Komiyama (2009) Emphasizes that reading is a crucial skill for English language learners in the modern world, as it supports overall proficiency development and provides access to vital information in both academic and professional contexts. Palardy as cited in Handayani (2013) stated that through the act of reading, students have the opportunity to get to know and recognize views about cultures and people from various parts of the world, to strengthen their imaginative and perceptive skills, and to acquire fresh insights by evaluating their ideas with the ones presented in texts. Reading

undoubtedly plays a crucial role in expanding one's language proficiency and knowledge (Patel & Jain, 2008).

Hasibuan & Ansyari (2007) Proposed that reading is an interactive process where the reader engages with the text, resulting in comprehension. Comprehension, as stated by Snow (2002), involves actively engaging with written language to both construct and derive meaning simultaneously. Reading comprehension refers to the ability of language learners to read and comprehend written texts, enabling them to identify main ideas and specific information within the material (Sagita et al., 2019). A comprehensive understanding of the concepts and information provided in the text can be achieved by the reader actively constructing meaning, which can be characterized as a complex process in reading comprehension (Westwood, 2008). The objective, then, is to achieve a complete understanding of the text as a whole, rather than interpreting the meaning of individual words or sentences in isolation (Westwood, 2012). Improving reading comprehension helps learners advance their English language skills and expand their knowledge by accessing information from various texts (Habók & Magyar, 2018). Students often struggle with comprehending the organization and structure of texts. According to Hayashi, as cited in Handayani, (2013), the process of reading comprehension of English texts for EFL students is extremely challenging. Noviarini (2021) found in her research that students faced difficulty comprehending English texts due to a lack of vocabulary. The students also mentioned that the way the teacher taught reading material was not interesting. Similarly, Rahman et al. (2023) observed that the teacher used conventional methods in class, which resulted in students' lack of interest in the learning process and low scores in their reading comprehension. To enhance students' reading comprehension, teachers must employ suitable instructional methods. A variety of teaching strategies, from conventional techniques to modern, technology-based approaches, can be utilized in the classroom.

Traditional approaches to teach reading comprehension have relied heavily on print materials and traditional instructional methods (Andrade & Law, 2021). However, the advent of digital reading platforms offers an alternative and dynamic approach to fostering reading comprehension skills (Apps et al., 2023). Digital reading platforms have become increasingly popular in educational settings due to their potential to enhance reading comprehension skills (Loh et al., 2023). According to Kumar (2023), digital reading platforms, online tools, and other technology-based approaches can help improve students' reading comprehension skills, increase their engagement with the text, and provide a more interactive learning experience. These platforms offer various interactive features and multimedia elements that can engage students and support their comprehension development.

ReadWorks (Inc., 2017) is an online platform that offers diverse reading passages, vocabulary reinforcement, and comprehension questions—both multiple-choice and short written responses that students can access with or without audio assistance. Students have the option to activate the ReadWorks narrator to read the text aloud by pressing the play button, and they may opt out of using this feature if they feel sufficiently confident in their ability to read the text independently and accurately. ReadWorks offers more than 2,600 literary and informational passages to students in grades K-12, all of which are available at no cost. There are search options for all passages on the website that include keyword, grade, topic, text type, lexile level (a criteria for connecting readers with relevant texts), and skill/strategy (Arabo et al., 2017). Teachers are able to effortlessly trace passages that are appropriate to their subject or topic by categorizing them into 12 categories, including Civics & Government, Technology & Engineering, and World History. Poetry,

informational, and literary passages are all included. Additionally, the content types are divided into four categories, named Reading Passages, Article-A-Day, Paired Texts, and Book Studies, aiding teachers in selecting passages tailored to a specific type of content. Most of ReadWorks' reading passages come with a set of text-dependent questions, which are designed to prompt students to use evidence from the text to answer accurately. These questions help assess student comprehension and usually consist of five to ten multiple-choice and short-answer items.

Beside the diverse reading contents, ReadWorks also provides teachers with data reports that can be utilized to monitor students' reading progress. With all those features, the primary objective of this platform is to cultivate students' motivation for independent reading by offering opportunities for both solo practice and prompt feedback. To achieve this aim, students have the freedom to choose from a selection of tests authorized by the educator, tailored to their grade level or current reading proficiency. Although the ReadWorks offers student tests ranging from kindergarten through twelfth grade, teachers have the ultimate authority to choose the grade level of texts that each of their students reads (Inc., 2017).

Numerous studies have been conducted to examine the impact of using ReadWorks on students' reading performance. Fithriyah (2022) revealed that the students considered ReadWorks improved their reading comprehension, particularly in enhancing their vocabulary fluency. They noted that the vocabulary section, which provided definitions and examples, aided them in better understanding the words encountered. Tare et al. (2022) observed that greater use of ReadWorks was associated with significant improvements in students' standardized reading test scores, suggesting that the platform effectively enhances reading comprehension. Hethesia (2021) emphasized the advantages of using ReadWorks.org for reading practice, noting that it boosts learners' motivation and fosters the development of reading comprehension skills through genuine learning experiences. Furthermore, a growing body of study indicates that ReadWorks may be limited, despite the fact that they can still improve reading comprehension skills (Nobles, S., Anderson, D., Raman, M., Laird, K., & Gerald, 2018).

The studies indicated that utilizing ReadWorks is beneficial for students' reading achievement. Nonetheless, research on the effectiveness of Reading Passages content for enhancing reading comprehension, especially among senior high school students in the current context, remains limited. Reading Passages content comes with vocabulary support and text-dependent question sets available up to high school level. This study is important as it will explore in more detail how ReadWorks affects students' reading comprehension focusing on the use of one specific feature, with the research questions as the guide formulated as follows: How effective is the use of digital reading platform in developing students' reading comprehension skills?, and Is there a significant difference in the improvement of students' reading comprehension skills before and after using digital reading platform?. This study aims to address this gap by offering deeper insights into how ReadWorks contributes to enhancing reading comprehension, particularly among high school students.

2. METHOD

This study utilized a within-subject design to assess the effectiveness of the ReadWorks digital reading platform in enhancing reading comprehension skills among second-grade students at SMA Negeri 16 Samarinda. This design was chosen because it allows each subject to be his or her own control, minimizes inter-individual variability and focuses on

changes in individual responses to two different treatment conditions (Keppel & Wickens, 2004). A standardized reading comprehension test served as the research instrument. The research was carried out in two phases: initially employing traditional teaching methods, followed by the implementation of the ReadWorks digital reading platform. A washout period was included between the two phases to minimize carryover effects.

The sample was composed of students chosen through cluster sampling. Initially, second-grade students were selected using cluster sampling to ensure a representative sample of the population. This method involves obtaining a random sample of clusters from the population, with every individual within each chosen cluster invited to take part (Sedgwick, 2014). In this study, the researcher used class 11 (2) as a sample, serving both as the experiment group as well as the control group. The class consists of 30 students and every one of them participated.

The research instrument utilized in this study was a reading comprehension test, administered as both a pre-test and a post-test. The test was adapted from a previous study, ensuring its validity and reliability (Ahmad, 2020). To establish a baseline measure of their reading comprehension skills, the researcher collected data from the students' most recent scores assessed by their teacher, serving as a substitute for the formal pre-test scores. The post-test, on the other hand, was administered to the students after they received the treatment. The aim of the post-test is to measure any changes in students' reading comprehension skills. During the first phase of treatment, students underwent a period of instruction using conventional teaching methods for reading comprehension. This phase aimed to provide a control measure against which the effectiveness of ReadWorks could be compared. Following the first phase, a washout period was implemented as a temporal gap to reduce any potential lingering effects from the initial instruction, ensuring that the results of the second phase were not influenced by prior instruction. After the washout period, the second phase began, where students were instructed to use the ReadWorks platform. This phase was designed to test the platform's effectiveness in improving reading comprehension skills.

The variables measured in this study included the type of instructional method used (independent variable: conventional teaching methods vs. ReadWorks platform) and students' reading comprehension scores (dependent variable) as measured by the standardized reading comprehension test. The within-subject design was chosen to control individual differences among students, ensuring that each participant served as their own control. This design enhances the reliability of the findings by reducing the variability that could arise from differences between participants. The washout period was included to minimize the risk of carryover effects, which could bias the results of the second phase. To ensure consistency in measuring reading comprehension skills, the same standardized test was used for both pre-test and post-test assessments, enabling accurate comparisons of the effectiveness of the two instructional methods.

The data were analyzed using paired samples t-tests to evaluate the significance of the score differences between the two phases. The data consists of pairs of measurement results from everyone who experienced both treatments, using the ReadWorks reading platform and the conventional methods. This statistical method was chosen because it is well-suited for comparing means from the same group of participants under different conditions. The analysis aimed to provide solid evidence of the ReadWorks platform's effectiveness in improving reading comprehension skills compared to traditional teaching methods. This method ensured a thorough evaluation of the ReadWorks platform, addressing limitations of previous studies by controlling for individual differences and

assessing the platform's impact in a real educational setting. The findings are expected to contribute to the broader understanding of digital tools in education and their potential to improve learning outcomes.

3. FINDINGS AND DISCUSSION

Research Findings

Upon completing the study, two types of data were collected: pre-test and post-test scores. For the pre-test, the researcher used the students' most recent scores, as assessed by their teacher, as a substitute for formal pre-test results. These initial scores were used as a benchmark to measure students' baseline abilities before any treatment. Meanwhile for the post-test, the researcher administered post-test after the completion of each treatment: one post-test was given following the conventional teaching method, and the other was given after using the digital reading platform, ReadWorks. The tests were given to students in class 11 (2) of SMA Negeri 16 Samarinda. The researcher administered a test comprising 30 multiple-choice questions, with a total of 30 students participating as the subjects of the study.

The tables below display the data showing the students' scores before and after being taught using digital reading platform.

The Data of Experimental Group (Treatment)

Table 1. *Students' Score Before and After Being Taught Using ReadWorks*

Students' Name	Pre-Test Score (X)	Post Test Score (Y)
AB	35	73
AFS	42	70
ATN	31	77
BF	22	63
DZP	32	73
DA	42	70
DC	32	67
DNA	30	70
FDA	20	70
IPS	31	77
IVM	27	77
JFS	40	73
KTW	32	80
LYS	44	73
LS	52	80
LM	32	70
MFN	25	70
MRR	32	73
MAP	10	80
MA	33	63
MD	37	77
MMR	32	67
MRA	22	63

NR	44	77
NAF	30	70
RA	32	73
RF	50	83
RYA	34	77
RA	37	70
TKA	60	80
N=30	$\Sigma X=1022$ Mean=34.07	$\Sigma Y=2186$ Mean=72.87

The table above presents the data for the experimental group of 30 students, before and after being taught using the digital reading platform, ReadWorks. Prior to the treatment, the total pre-test scores amounted to 1022, with individual scores ranging from 10 to 60, and an average score of approximately 34.07. Following the treatment, the total post-test scores increased to 2186, with the lowest score being 63 and the highest score 83. The average post-test score increased significantly to approximately 72.87.

The Data of Control Group (No Treatment)

Table 2. *Students' Scores Before and After Being Taught Using Conventional Method*

Students' Name	Pre-Test Score (X)	Post Test Score (Y)
AB	35	53
AFS	42	47
ATN	31	53
BF	22	43
DZP	32	53
DA	42	57
DC	32	47
DNA	30	50
FDA	20	40
IMP	31	57
IVM	27	47
JFS	40	57
KTW	32	60
LYS	44	53
LS	52	60
LM	32	33
MFN	25	50
MRR	32	43
MAP	10	50
MA	33	47
MD	37	57
MMR	32	40
MRA	22	40
NR	44	57

NAF	30	57
RA	32	47
RF	50	77
RYA	34	57
RA	37	60
TKA	60	73
N=30	$\Sigma X=1022$ Mean=34.07	$\Sigma Y=1565$ Mean=52.17

The table above presents the data for the control group of 30 students, before and after taught using conventional teaching methods. Before the treatment, the students' pre-test scores totaled 1022, with scores ranging from a low of 10 to a high of 60, and an average score of about 34.07. After the treatment, the post-test scores increased to a total of 1565, with the lowest score being 33 and the highest score 77. The average post-test score was approximately 52.17.

Based on the data description of the experimental and control groups, it was observed that the average score of students taught using the digital reading platform was higher than that of those taught through traditional methods.

Data Normality Test

The normality test determines whether or not the collected data is normally distributed. The IBM SPSS Statistics version 25 program was used to conduct the normality test in this study. The data is considered to be normally distributed if the significance value exceeds 0.05. The table below presents the results of the normality test:

Table 3. *Normality Test Result*

		Tests of Normality					
Students' Reading Comprehension	Code Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
	Pre-Test	.148	30	.090	.956	30	.242
	Post Test Experimental	.146	30	.102	.944	30	.118
	Pre-Test	.148	30	.090	.956	30	.242
	Post Test Control	.136	30	.167	.947	30	.141

a. Lilliefors Significance Correction

As shown in the table above, the pre-test and post-test for the experimental group had significance values of 0.242 and 0.118, respectively, while the control group had significance values of 0.242 and 0.141. The significant values of both groups are > 0.05 , which means that both tests for all groups indicated that the significance values were above the common alpha level of 0.05, suggesting that the data distributions do not significantly deviate from normality. Consequently, it can be concluded that the reading comprehension scores for both the experimental and control groups on the pre-test and post-test stick to a normal distribution, thereby satisfying the normality assumption necessary for subsequent statistical analyses.

Descriptive Statistics

The researcher utilized the IBM SPSS Statistics version 25 program to calculate and analyze the data from experimental and control group.

Table 4. *Descriptive Statistics Results*

Descriptive Statistics								
	N	Range	Min.	Max.	Sum	Mean	Std. Deviation	Variance
Pre-Test	30	50	10	60	1022	34.07	10.014	100.271
Post Test Experimental	30	20	63	83	2186	72.87	5.367	28.809
Pre-Test	30	50	10	60	1022	34.07	10.014	100.271
Post Test Control	30	44	33	77	1565	52.17	9.337	87.178
Valid N (listwise)	30							

The descriptive statistics provide a comprehensive overview of the pre-test and post-test scores for both the experimental and control groups. The pre-test scores, which establish a baseline for students' initial reading comprehension abilities, revealed similar distributions between the two groups. Each group consisted of 30 students, with pre-test scores ranging from a minimum of 10 to a maximum of 60. In the experimental group, the total pre-test score was 1022, resulting in a mean of 34.07 and a standard deviation of 10.014. Likewise, the control group also had a total pre-test score of 1022, with the same mean score of 34.07 and a standard deviation of 10.014.

After the treatment, there was a significant shift in post-test scores between the experimental and control groups. In the experimental group, where the digital reading platform was utilized, post-test scores ranged from 63 to 83. The total post-test score was 2186, with an average score of 72.87 and a standard deviation of 5.367, indicating a positive impact of the intervention on students' reading comprehension. Conversely, in the control group, which employed traditional teaching methods, post-test scores ranged from 33 to 77. The total post-test score was 1565, with an average of 52.17 and a standard deviation of 9.337, reflecting some improvement in reading comprehension, though not as pronounced as in the experimental group.

In summary, the descriptive statistics highlight the effectiveness of the intervention in enhancing students' reading comprehension skills. The findings show improvements in both the experimental and control groups, but the data clearly indicates that the digital reading platform (ReadWorks) was more effective in fostering these skills compared to conventional teaching methods. The experimental group not only demonstrated a greater overall increase in scores but also achieved a higher average post-test score, underscoring the significant impact of the digital reading platform on students' reading comprehension.

Hypothesis Testing

To test the hypothesis, the data collected from both the experimental and control groups were calculated and analyzed using the t-test formula. The analysis process involved describing the data by calculating the mean and standard deviation, followed by applying a paired sample t-test to evaluate the significant differences between the outcomes of the two treatments.

The hypothesis proposed in this study are:

H0 : The use of a digital reading platform does not impact the improvement of students' reading comprehension skills.

Ha : The use of a digital reading platform positively impacts the improvement of students' reading comprehension skills.

The following conditions were applied:

H0 : rejected, if sig (2-tailed) > $\alpha = 0.05$ (5%)

Ha : accepted, if sig (2-tailed) < $\alpha = 0.05$ (5%)

The paired sample t-test generated the following results:

Table 5. *Description of Students' Reading Comprehension Test Result*

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test	34.07	30	10.014	1.828
	Post Test Experimental	72.87	30	5.367	.980
Pair 2	Pre-Test	34.07	30	10.014	1.828
	Post Test Control	52.17	30	9.337	1.705

Table 6. *Paired Sample T-Test Result of Experimental & Control Groups*

		Paired Samples Test							
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre-Test - Post Test Experimental	-38.800	9.357	1.708	-42.294	-35.306	-22.713	29	.000
Pair 2	Pre-Test - Post Test Control	-18.100	7.967	1.455	-21.075	-15.125	-12.444	29	.000

The results of the paired samples of t-test offer insights into the disparities between the pre-test and post-test scores in both the experimental and control groups. Based on the data presented above, the first pair has the mean score increased significantly from 34.07 (pre-test) to 72.87 (post-test), with a standard deviation decreasing from 10.014 to 5.367, indicating a substantial improvement and reduced variability. The paired samples test for the first pair has the mean difference of -38.800, indicating that, on average, students scored 38.800 points higher on the post-test compared to the pre-test in the experimental group. The negative sign signifies an improvement in scores. The confidence interval spans from -42.294 to -35.306, not intersecting with zero, indicating a significant difference. The t-value is -22.713, with 29 degrees of freedom, and a significance level of 0.000 ($p < 0.05$). Since the p-value (0.000) is lower than the significance level (0.05), this confirms that the difference is statistically significant.

Similarly, in the second pair, the mean score increased from 34.07 (pre-test) to 52.17 (post-test), with the standard deviation slightly decreasing from 10.014 to 9.337, indicating some improvement but with more variability in comparison to the experimental group. The paired samples test for the second pair has the mean difference of -18.100 indicates that

students in the control group scored an average of 18.100 points higher on the post-test compared to the pre-test. The confidence interval ranges from -21.075 to -15.125, again indicating a significant difference. The t-value of -12.444, with 29 degrees of freedom, and a significance level of 0.000 ($p < 0.05$), confirms that this difference is also statistically significant.

The paired samples t-test results show significant improvements in reading comprehension scores from the pre-test to the post-test for both the experimental and control groups. The experimental group showed a larger mean difference, and a higher t-value compared to the control group, indicating a more significant improvement. The statistically significant p-values for both pairs (0.000) confirm that the observed differences are not caused random chance but rather due to the interventions applied. These results suggest that both the experimental intervention and the control condition had a positive impact on students' reading comprehension, with the experimental intervention being more effective.

Thus, with the data demonstrating a significant difference in the students' reading comprehension achievements between those who were taught using the digital reading platform (ReadWorks) and those who were only taught using the conventional teaching method, it can be concluded that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_o) is rejected, which again, indicating the experimental intervention proved to be more effective in improving students' reading comprehension compared to the control condition.

Research Discussion

The study investigated the effectiveness of the digital reading platform, ReadWorks, in improving the reading comprehension skills of high school students, comparing it with conventional teaching methods. The research employed a within-subject design, allowing for a detailed analysis of the same group of students before and after the intervention. Based on the data analysis, it shows that the digital reading platform (ReadWorks) is effective in improving students' reading comprehension skills as there is significant difference in scores before and after being taught using ReadWorks among the second-grade students of SMA Negeri 16 Samarinda.

In the experimental group, the pre-test scores averaged 34.07, with a standard deviation of 10.014, indicating a wide range of initial reading comprehension abilities among the students. After the intervention with ReadWorks, the post-test scores significantly increased to an average of 72.87. The standard deviation dropped to 5.367, showing that the scores became more consistent, reflecting a uniform improvement in reading comprehension skills. The mean difference of -38.800 highlights a substantial gain in performance, supported by the paired samples t-test results (t-value: -22.713, p-value: 0.000), which confirm that this improvement is statistically significant.

For the control group, the pre-test scores also averaged 34.07, with a standard deviation of 10.014. Following the conventional teaching methods, the post-test scores increased to an average of 52.17. However, the standard deviation slightly decreased to 9.337, indicating that the scores remained relatively varied. The mean difference of -18.100 shows an improvement, but it is less pronounced compared to the experimental group. The paired samples t-test results (t-value: -12.444, p-value: 0.000) also confirm a statistically significant improvement, though not as substantial as in the experimental group.

The findings demonstrate that both the digital reading platform and traditional teaching methods positively impacted students' reading comprehension skills, but the extent and

consistency of improvement varied significantly between the two approaches. The substantial increase in the mean score and the reduced variability in the experimental group indicate that ReadWorks was highly effective in enhancing students' reading comprehension skills. The decrease in the standard deviation suggests that the platform helped students achieve more uniform progress, likely due to its interactive and engaging features that cater to different learning paces and styles. The statistically significant mean difference and high t-value reinforce the platform's effectiveness, making it a valuable tool for improving reading comprehension. While the control group also showed improvement, the mean score increased, and standard deviation changes were less significant compared to the experimental group. The larger variability in the post-test scores suggests that the conventional methods did not equally benefit all students, leading to more diverse outcomes. This indicates that while conventional methods can improve reading comprehension, they may not be as effective or consistent as digital platforms like ReadWorks.

The current research findings align with and expand upon previous studies regarding the effectiveness of digital reading platforms in improving reading comprehension. For example, Fithriyah (2022) found that students perceived ReadWorks as improving their reading comprehension, particularly in vocabulary and fluency. Similarly, the current study supports these findings, showing significant improvements in overall reading comprehension scores for students using ReadWorks. The substantial increase in mean scores and reduced variability indicates that the platform's interactive features effectively support vocabulary acquisition and comprehension skills. Additionally, Tare et al. (2022) reported a correlation between increased usage of ReadWorks and higher growth in standardized reading test scores. The present study's significant mean difference and high t-values support this correlation, demonstrating that consistent use of ReadWorks can lead to measurable improvements in reading comprehension. The findings suggest that ReadWorks provides an effective approach for enhancing comprehension through repeated practice and immediate feedback. Moreover, Hethesia (2021) highlighted the motivational benefits of ReadWorks, noting that it enhances reading comprehension through authentic learning experiences. The current study's results, showing a significant improvement in post-test scores, suggest that the motivational aspects of ReadWorks contribute to better engagement and learning outcomes. The reduction in score variability in the experimental group indicates that the platform effectively engages a wide range of students, promoting more uniform improvements.

The study's results highlight the potential of digital reading platforms to significantly improve reading comprehension skills more effectively than conventional teaching methods. The consistent and substantial improvement observed in the experimental group underscores the importance of incorporating technology in educational practices to support diverse learning needs and improve academic outcomes. Future research could explore the long-term effects of using digital reading platforms, their impact on different age groups, and their applicability in various educational settings. Additionally, studies could investigate the specific features of digital platforms that contribute most to learning gains, providing insights into how these tools can be optimized for maximum educational benefit.

In conclusion, the findings support the use of ReadWorks as an effective tool for enhancing reading comprehension skills, offering a more consistent and substantial improvement compared to conventional teaching methods. This study contributes to the growing body of literature advocating for the integration of digital tools in education to improve student learning outcomes.

4. CONCLUSION

The study concludes that the digital reading platform ReadWorks is a highly effective tool for improving the reading comprehension skills of high school students, demonstrating significantly better outcomes compared to traditional teaching methods. The effectiveness of ReadWorks is evident in the substantial improvement in students' test scores. For instance, the experimental group, which used ReadWorks, saw their average test scores rise from 34.07 to 72.87 after the intervention—a remarkable increase of 38.8 points. Additionally, the standard deviation in this group dropped from 10.014 to 5.367, indicating that the students' performance became more consistent, with less variation in scores. This suggests that ReadWorks not only enhanced reading comprehension across the board but also helped students achieve more uniform progress, regardless of their initial abilities.

In comparison, the control group, which continued with conventional teaching methods, also showed improvement, but to a lesser extent. Their average test scores increased from 34.07 to 52.17, reflecting a gain of 18.1 points. However, the standard deviation only slightly decreased from 10.014 to 9.337, indicating that the variability in students' performance remained relatively high. This suggests that traditional teaching methods did not benefit all students equally, leading to more varied outcomes.

The statistical analysis further supports these findings. The paired samples t-test for the experimental group yielded a t-value of -22.713 with a p-value of 0.000, confirming that the improvement in scores was highly statistically significant. In contrast, the control group also showed a statistically significant improvement (t-value: -12.444, p-value: 0.000), but the gains were less consistent.

These results underline the potential of digital platforms like ReadWorks to provide a more engaging, personalized, and effective learning experience compared to conventional methods. The significant increase in mean scores and the reduction in score variability in the experimental group highlight how ReadWorks can provide different learning styles and needs, helping all students progress more consistently.

The findings of the study contribute to the increasing amount of indication supporting the integration of digital tools in education. By showing that students using ReadWorks achieved significantly higher and more consistent scores, the research supports the broader adoption of such platforms to enhance student learning outcomes. Future research could explore the long-term effects of using digital reading platforms, their impact on different age groups, and the specific features of these tools that contribute most to learning gains. This could provide valuable insights into how digital platforms can be optimized for maximum educational benefit.

REFERENCES

- Ahmad, I. H. (2020). The effectiveness of read, encode, annotate, ponder (REAP) strategy towards students' reading comprehension on explanation text. *Jakarta: UIN*, 1–138.
- Andrade, P., & Law, E. L. C. (2021). Improving Student Experience and Learning Performance with Traditional Instructional Methods and New Digital Media. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 12934 LNCS, 97–106. https://doi.org/10.1007/978-3-030-85613-7_7
- Apps, T., Beckman, K., & Howard, S. K. (2023). Valuable data? Using walkthrough methods to understand the impact of digital reading platforms in Australian primary schools. *Learning, Media and Technology*, 48(2), 294–309. <https://doi.org/10.1080/17439884.2022.2160458>
- Arabo, M., Budd, J. S., Garrison, S., & Pacheco, T. (2017). The right tool for the job: Improving reading and writing in the classroom. *Thomas B. Fordham Institute, March*, 277–290.
- Birch, B. M., & Fulop, S. (2020). ENGLISH L2 READING: Getting to the Bottom, 4th Edition. *English L2 Reading: Getting to the Bottom, 4th Edition*, 1–294. <https://doi.org/10.4324/9780429397783>
- Brown, H. D. (2007). *Principles of language learning and teaching* (5th Ed). Longman.
- Fithriyah, N. L. (2022). Fostering Students' Positive Attitude Towards Reading Comprehension Through ReadWorks. *Proceedings of the International Seminar on Language, Education, and Culture (ISoLEC 2021)*, 612, 236–241. <https://doi.org/10.2991/assehr.k.211212.044>
- Habók, A., & Magyar, A. (2018). The effects of EFL reading comprehension and certain learning-related factors on EFL learners' reading strategy use. *Cogent Education*, 6(1).
- Handayani, M. P. (2013). Using Children Short Stories to Enhance Students' Reading Comprehension. *Journal of English and Education*, 1(1), 133–141.
- Hasibuan, K., & Ansyari, M. F. (2007). *Teaching English as a Foreign Language*. Alaf Riau. <https://doi.org/10.1080/00131726709338061>
- Hethesia, D. (2021). The Practical Implementation of an Effective Digital Reading Program to Enhance Literacy Skills with Respect to Second-Language Learners during Covid-19 Pandemic. *Information Technology in Industry*, 9(2), 876–884.
- Inc., R. (2017). *ReadWorks. ReadWorks | Award-Winning, EdTech Nonprofit Organization*.
- Keppel, G., & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook*. Pearson Prentice-Hall.
- Komiyama, R. (2009). CAR: A Means for Motivating Students to Read. *English Teaching Forum*. 3(1), 32–37.
- Kumar, K. V. (2023). *The Efficacy of Online Reading Platforms to Develop Reading Comprehension Skills of Engineering Students*. 16(4).
- Loh, C. E., Sun, B., & Lim, F. V. (2023). 'Because I'm always moving': a mobile ethnography study of adolescent girls' everyday print and digital reading practices. *Learning, Media and Technology*, 48(4), 612–631. <https://doi.org/10.1080/17439884.2023.2209325>
- Nobles, S., Anderson, D., Raman, M., Laird, K., & Gerald, T. (2018). Article-A-Day [TM]: Using a Maze Assessment to Test the Impact of Building Background

- Knowledge on Reading Comprehension. *Behavioral Research and Teaching*.
- Noviarini, T. (2021). Ahmad, I. H. (2020). The effectiveness of read, encode, annotate, ponder (REAP) strategy towards students' reading comprehension on explanation text. Jakarta: UIN, 1–138. Andrade, P., & Law, E. L. C. (2021). Improving Student Experience and Learning Perfo. *ELT-Lectura*, 8(1), 65–73. <https://doi.org/10.31849/elt-lectura.v8i1.6115>
- Nunan, D. (2003). *Practical English Language Teaching*. McGraw-Hill Companies.
- Patel, M.F., & Jain, P. M. (2008). *English Language Teaching: Methods, Tools, & Techniques*. Sunrise Publishers & Distributors.
- Rahman, Y., Pratiwi, D. S., & Prihatini, C. (2023). Flashcard as an Instructional Media Towards Students' Reading Comprehension. *ELT-Lectura*, 10(2), 155–163. <https://doi.org/10.31849/elt-lectura.v10i2.15171>
- Sagita, D. N., Mertoso, S. R., & Arid, M. (2019). Using Short Story Strategy To Develop Reading Comprehension of Grade Eight Students. *E-Journal of ELTS (English Language Teaching Society)*, 7(1), 1–7.
- Sedgwick, P. (2014). Cluster sampling. *BMJ (Online)*, 348, 348. <https://doi.org/10.1136/bmj.g1215>
- Snow, C. (2002). *Reading for Understanding: Toward an R&D Program in Reading Comprehension*. 11. <https://doi.org/10.7249/mr1465.0>
- Tare, M., Shell, A. R., & Jackson, S. R. (2022). Student engagement with evidence-based supports for literacy on a digital platform. *Journal of Research on Technology in Education*, 54(2), 177–187. <https://doi.org/10.1080/15391523.2020.1821412>
- Westwood, P. (2008). *What Teachers Need to Know About Reading and Writing*. Acer Press.
- Westwood, P. (2012). Reading comprehension: assisting children with learning difficulties. *Australian Journal of Learning Difficulties*, 17(1), 59–61. <https://doi.org/10.1080/19404158.2011.650650>