

The Effectiveness of ReadTheory.org in Improving EFL Students' Reading Comprehension

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Abstract

This study investigates the usefulness of ReadTheory in enhancing EFL students' reading comprehension. Due to their poor vocabulary proficiency and low interest in traditional reading materials, Indonesian senior high school students continue to struggle greatly with reading comprehension. This study employed a quasi-experimental design involving eleventh-grade students at SMA Gajah Mada Bandar Lampung, who were divided into two groups: an experimental group using ReadTheory and a control group using printed textbooks. Pre-tests and post-tests were used to gather data, and paired-sample and independent-sample t-tests were used for analysis. According to the findings, the experimental group improved their reading comprehension much more than the control group ($p < .05$). Students were able to interact with reading materials at suitable levels of difficulty because of ReadTheory's interactive and adaptive capabilities, which resulted in more steady learning gains. These results imply that ReadTheory (ReadTheory.org) is a useful online resource for improving the reading comprehension of EFL students and may be suggested as a substitute teaching method in secondary school settings.

Keywords: EFL students; online learning; reading comprehension; ReadTheory; secondary education

1. Introduction

Because it allows students to acquire academic material, expand their vocabulary, and derive meaning from written materials, reading comprehension is an essential part of learning English as a foreign language (EFL) (Kirby, 2007; Kintsch, 1998; Snow, 2024). Reading comprehension is especially crucial in secondary school settings as students must interact with more complicated texts in a variety of topic areas. However, owing to poor vocabulary knowledge, low reading fluency, and inefficient reading techniques, many EFL students still struggle to comprehend texts (Duffy, 2008; Hudson et al., 2008; National Reading Panel, 2000). These issues are frequently made worse in Indonesian EFL classrooms by traditional reading instruction, which mainly uses printed materials and teacher-centered methods that might not adequately take into account the individual differences and learning styles of each student (Isnaeningrum, 2024; Alfiani et al., 2024).

By offering dynamic and flexible learning settings, online and technology-assisted learning resources have the potential to enhance reading comprehension, according to recent research (Hudson et al., 2008; Anggia & Habók, 2023). ReadTheory, an online reading program that adapts text difficulty depending on students' performance and offers instant feedback, is one online platform that has garnered notice. In a number of EFL and ESL situations, ReadTheory has been shown to improve students' reading abilities, motivation, and learning autonomy (Romeo et al., 2016; Jabbar, 2020; Alalwany, 2021; Yela, 2022). According to these findings, adaptive online reading platforms are a more effective way to assist the development of reading skills than conventional approaches.

Despite these results, there are still a number of limitations with current research. The majority of ReadTheory's earlier research has either engaged students from other educational levels, concentrated on learners outside of the Indonesian senior high school environment, or prioritized students' views over quantifiable learning results (Alalwany, 2021; Yela, 2022). Furthermore, there are very few empirical research that use experimental methods to compare ReadTheory.org with traditional printed reading teaching in EFL classrooms in Indonesia. This suggests a glaring study gap over ReadTheory's ability to help Indonesian senior high school EFL students improve their reading comprehension.

Thus, the purpose of this study is to find out if, in comparison to traditional printed materials, ReadTheory.org considerably enhances the reading comprehension of senior high school students in Indonesia.

2. Method

A quasi-experimental pre-test and post-test control group design was used in this investigation. A reading comprehension pre-test and post-test were given to both groups before to and after the course of therapy, respectively. The purpose of this study was to determine if students taught using ReadTheory.org and those taught using printed materials differed significantly in their reading comprehension success (Creswell & Plano Clark, 2012).

Participants

The participants of this study were 70 eleventh-grade students of SMA Gajah Mada Bandar Lampung in the 2024/2025 academic year. The students were drawn from two intact classes and divided into two groups: an experimental group ($n = 35$) and a control group ($n = 35$). The experimental group received reading instruction using ReadTheory.org, while the control group was taught using conventional printed reading materials. The participants were selected using purposive sampling because random assignment was not feasible in the school context, which is common in educational research settings (Setiyadi, 2006). However, because intact classes were used and random assignment was not feasible, this quasi-experimental design may limit the generalizability of the findings. Pre-existing differences between groups could not be entirely controlled and should be considered when interpreting the results.

Instruments

A reading comprehension exam with fifty multiple-choice questions served as the study's instrument. Each of the five reading comprehension components; main concept, supporting details, reference, inference, and vocabulary; was equally weighted in the exam. To gauge students' progress in reading comprehension, the pre-test and post-test were administered using the same format. To guarantee content relevance and construct representation, the test items were modified from standardized reading exams often administered to senior high school students (Kirby, 2007; Kintsch, 1998).

Data Analysis

SPSS was used for the quantitative analysis of the gathered data. The improvement in reading comprehension scores within each group was examined using a paired-sample t-test, and the post-test results between the experimental and control groups were compared using an independent-sample t-test. In accordance with accepted practices in educational research, the threshold of statistical significance was chosen at $p < .05$ (Field, 2018; Cohen et al., 2007).

3. Findings and Discussion

Findings

Instrument Reliability and Validity

Prior to analyzing the intervention's efficacy, the validity and reliability of the reading comprehension test were assessed. 69 students were given the 50 multiple-choice questions that made up the instrument. According to Rasch model analysis, the test showed satisfactory measurement quality, with item reliability at 0.68 and person reliability at 0.82. The test performed well in assessing students' reading comprehension skills, as shown by the infit and outfit mean square (MNSQ) values being within acceptable levels. These results attest to the test's validity and reliability for use in the experimental study.

Students' Reading Comprehension Improvement

The descriptive statistics of the experimental and control groups' students' pre- and post-test results are shown in Table 1. While the control group's mean scores only slightly improved from the pre-test to the post-test, the experimental group's mean scores increased significantly.

Table 1. Descriptive Statistics of Pre-test and Post-test Scores

Group	Test	N	Mean	SD
Experimental	Pre-test	35	31.200	8.834
Experimental	Post-test	35	38.057	5.641
Control	Pre-test	34	29.588	8.188
Control	Post-test	34	30.588	7.692

Statistical Comparison of Learning Outcomes

An independent-sample t-test and paired-sample t-test were used to further investigate the importance of students' progress. Table 2 provides a summary of these studies' findings.

Table 2. Paired and Independent Sample t-test Results

Comparison	Mean	T	Df	Sig. (p)
Experimental (Post-Pre)	6.857	9.820	34	0.000
Control (Post-Pre)	1.000	4.324	33	0.000
Experimental vs control (post-test)	7.468	-4.609	67	0.000

Table 2 indicates that the experimental group showed a statistically significant improvement ($p < .05$). Although the control group also improved, the magnitude of improvement was considerably smaller. The independent-sample t-test further confirmed a significant difference between the post-test scores of the two groups.

Overall, these results show that using ReadTheory.org instead of conventional reading teaching improved EFL students' reading comprehension.

Discussion

The study's findings show that ReadTheory considerably outperforms traditional printed reading training in raising EFL students' reading comprehension. When compared to their pre-test performance, the experimental group's post-test scores increased significantly, while the control group's improvement was just marginal. This discrepancy demonstrates that incorporating adaptive online reading platforms into secondary EFL classes may result in higher reading comprehension learning gains.

The adaptive nature of ReadTheory, which continually modifies text difficulty depending on students' reading performance, explains the experimental group's notable improvement. This function reduces cognitive overload and frustration by enabling students to interact with texts that are suitable for their level of ability. Students are more likely to concentrate on meaning building rather than having difficulty deciphering new vocabulary or intricate sentence patterns when they come across materials that fit their reading level. According to earlier studies (Romeo et al., 2016; Jabbar, 2020; Alalwany, 2021), adaptive learning environments improve understanding by offering personalized learning routes.

Theoretically, these results corroborate Kintsch's (1998) constructive-integrative model, which highlights the active construction of meaning through the interplay of textual input and existing knowledge. ReadTheory's adaptive mechanism lets students read texts that are at the right level of difficulty for them, which helps them understand them better. Furthermore, the findings are consistent with adaptive learning theory, which posits that personalized instruction enhances learning efficiency by reducing cognitive overload and increasing engagement.

The control group's rather modest gain, on the other hand, raises the possibility that traditional reading teaching via printed materials may not adequately address learners' individual variations. Conventional teaching methods often depend on teacher-centered explanations and standard texts, which could not account for differences in students' vocabularies, reading speeds, and understanding techniques. Because of this, some students can find the content excessively challenging, while others might not feel properly challenged. Previous research has extensively examined this shortcoming of conventional education, arguing that non-adaptive reading materials tend to impede students' comprehension progress and lower engagement (Duffy, 2008; National Reading Panel, 2000).

ReadTheory's contribution to greater student involvement and autonomy is another significant factor that may account for its efficacy. By enabling students to practice reading on their own and monitor their progress, online reading platforms empower students to take more ownership of their education. Motivation, which is essential for the development of reading comprehension, might be favorably impacted by this feeling of autonomy. Motivated readers are more likely to employ comprehension methods, interact deeply with texts, and persevere through challenges, according to prior studies

(Hudson et al., 2008; Anggia & Habók, 2023). The experimental group's steady progress indicates that ReadTheory.org not only improves comprehension abilities but also creates a more stimulating learning environment.

Additionally, the results imply that students with lesser reading competence are not the only ones who may benefit from ReadTheory.org. Students with better starting reading ability also showed significant progress, as seen by the substantial association between pre-test and post-test results. This suggests that by offering tailored training without separating students according to skill levels, adaptive online platforms may assist a broad spectrum of learners. In heterogeneous classrooms, where instructors often struggle to satisfy a variety of learning demands at once, this flexibility is especially beneficial.

In contrast to other research, this study adds to the body of knowledge by using a quasi-experimental approach to provide empirical data from an Indonesian senior high school EFL environment. This study shows quantifiable learning increases in reading comprehension among secondary school students, while previous research has mostly focused on students' perspectives, motivation, or various educational levels. The results' validity is strengthened and the claim that ReadTheory.org may be a useful teaching tool for EFL reading instruction is supported by the use of both descriptive statistics and inferential analysis.

This study addresses the lack of research on adaptive online reading platforms in Indonesian senior high school EFL by providing empirical experimental evidence. This quasi-experimental study builds on perception-based research to provide statistical evidence that ReadTheory improves reading comprehension.

Notwithstanding its encouraging results, this research has many drawbacks. The findings may not be as generalizable to different educational situations since the sample was restricted to a single school. Future research may look at the long-term consequences of utilizing ReadTheory.org on the development of reading comprehension, given the intervention's length was somewhat brief. How certain platform elements, such the style of feedback or the genre of the text, affect students' understanding improvements might likewise be the subject of future study.

The study's overall conclusions demonstrate the pedagogical potential of incorporating adaptive online reading platforms into EFL training. By addressing individual learner characteristics, encouraging engagement, and boosting comprehension growth, ReadTheory provides a successful substitute for traditional reading training. These findings imply that in order to improve reading teaching and students' reading comprehension outcomes in secondary school, EFL instructors and curriculum designers should think about using adaptive online technologies.

4. Conclusion

This study demonstrates that ReadTheory.org is more effective than conventional printed materials in improving EFL students' reading comprehension at the senior high school level. The findings highlight the pedagogical value of adaptive digital reading platforms in supporting differentiated instruction and addressing diverse learner needs. English teachers and curriculum designers are encouraged to integrate adaptive online tools into secondary EFL programs to enhance reading comprehension outcomes.

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