



Leveraging Tecnology to Enhance Reading Comprehension

Ahmad Fauzan Nafis¹, Camelia², Hanif Al Ghiffari³, Hayati Eka Pratiwi⁴, Lulu Hairani⁵, Siti Nurhalizah Siregar⁶

¹⁻⁶Fakultas Ilmu Tarbiyah Dan Keguruan, Universitas Islam Negeri Sumatera Utara Medan
E-mail: nafiszaidan1234@gmail.com¹, camelia24092021@gmail.com², alghiffari705@gmail.com³,
hayatip72@gmail.com⁴, luluhairani@gmail.com⁵, nurhalizahsiti562@gmail.com⁶

Abstract

This research discusses the use of technology to enhance reading comprehension. In this digital era, technology has transformed how we receive, process, and use information. Technology provides various tools and applications that support reading instruction, ranging from interactive learning platforms to artificial intelligence-based tools capable of offering real-time feedback. This research explores the role of technology in improving reading comprehension, focusing on personalized learning, the use of digital media, and associated benefits and challenges. Studies show that technology can enhance reading comprehension by providing interactive and engaging learning experiences, as well as instant feedback. However, challenges such as distractions, the need for proper training, and the risk of over-reliance on technology must be addressed. By overcoming these challenges and integrating technology into reading instruction, educators can enhance students' reading skills and prepare them for success in the digital age. In the future, the development of more individualized and adaptive learning tools, as well as the exploration of new technologies such as virtual reality and augmented reality, can provide more immersive and interactive reading experiences. This research aims to provide valuable insights into the future development of technology-based literacy.

Keywords: Leveraging, Technology, Enhance, Reading Comprehension

INTRODUCTION

Reading comprehension is the ability to understand, analyze and interpret texts, which is the basis of effective learning in all fields. In this digital era, technology has changed the way we receive, process and use information. A variety of technological tools and applications are available to support reading, ranging from interactive online learning platforms to artificial intelligence-based tools capable of providing real-time feedback. Advanced technology also enables personalized learning, where approaches tailored to individual needs can be applied to improve their reading comprehension. Artificial intelligence-based learning systems can analyze students' reading habits and offer practice or additional material based on their level of understanding. Apart from that, technology also facilitates collaboration between students and teachers, allowing for deeper and more in-depth discussions of the texts being studied. However, the use of this technology also has challenges. For example, the importance of developing critical skills in evaluating the reliability of digital information and ensuring equal access to technology in different learning environments. Therefore, it is important to combine technology with a strong pedagogical approach and continuous assessment strategies to maximize technology's potential in improving reading comprehension. This introduction explores various applications of technology that have proven effective in improving reading comprehension, as well as the challenges and opportunities associated with the use of technology to teach literacy. It is hoped that this research can provide valuable insight into the development of technology-based literacy in the future.

In the field of education, particularly in the development of text comprehension skills, technology integration has become a very important area of research and innovation. The ability to comprehend written text is not only the basis for academic success, but also plays an important role in broader cognitive development and lifelong learning. In recent years, advances in technology have provided teachers and researchers with unprecedented tools and methods for improving reading

comprehension teaching and learning. The title "Using Technology to Improve Reading Comprehension" describes a growing field where traditional pedagogical approaches meet technological solutions advanced. This intersection promises to address long-standing challenges in literacy education by providing personalized learning experiences, adaptive feedback mechanisms, and engaging environments that meet the needs and preferences of diverse learners. Through the strategic integration of technology, educators have the potential to lower barriers to comprehension by providing interactive simulations, multimedia content, and real-time analytics that illuminate the individual's reading process. Additionally, the ever-evolving landscape of digital tools—from artificial intelligence and natural language processing to virtual reality and augmented reality—offers unprecedented opportunities to engage students in dynamic, interactive reading experiences. These tools can aid comprehension skills, facilitate deeper engagement with text through interactive annotation and multimedia integration, and foster a collaborative learning environment where students can explore, discuss, and construct meaning together. Although the potential benefits of technology in improving reading comprehension are enormous, there are challenges and considerations that must be overcome. These include issues of access and equity, digital literacy of teachers and students, and the need for in-depth research to assess the effectiveness of various technology interventions. Additionally, ethical considerations regarding data protection and appropriate use of student data in personalized learning environments must be carefully considered to ensure responsible implementation. In conclusion, the study of technologies used to improve reading comprehension is an exciting area of educational research and practice. By embracing innovation and following educational theory and pedagogy, educators can harness the transformative power of technology to empower students, increase literacy, and develop critical thinking skills essential for success in the digital age. This journal aims to explore and contribute to this growing debate by presenting empirical research, theoretical insights, and innovative practices that illuminate future technologies for improving reading comprehension.

The Internet can indeed be utilized for educational activities, for example using the Internet as a support tool, learning resource or tutorial. This is consistent with previous research that the Internet can be used in learning and teachers play an important role in shaping Internet learning (Tan and Xue, 2021). The teacher's role in this case is to provide clear instructions for finding sources, viewing sources, and using or applying sources. Finding sources, viewing sources and using sources In online education, good reading skills are absolutely necessary. Students' reading skills have a strong influence on the development of reading comprehension (Dolean et al., 2021). This means that students who cannot read, especially in higher grades (grades IV, V, and VI), have their own difficulties in developing reading comprehension. To filter information or news, students must have an understanding of the text. Reading comprehension skills can be developed by increasing students' interest or motivation. Research shows that students prefer reading materials that are printed on the screen (Liman Kabandan Karadeniz, 2021). Providing screen-readable information on the Internet can certainly support students' reading motivation in a way that affects students' reading comprehension.

Di sini keterlibatan gurusangat diperlukan untuk mendukung pemahaman bacaanmelalui pembelajaran online. Oleh karena itu, tinjauan literatur tentang peran pembelajaran online merupakan tugas yang sangat penting dan menarik dalam pekerjaan ini.

RESEARCH METHODS

The method used in this paper is a combination of qualitative methods with literature research. The purpose of this paper is to analyze existing theories by comparing them with those in the research literature. This article discusses and analyzes theoretically based on the results of the predecessors' research on Leveraging Technology To Enhance Reading Comprehension. The literature used comes from findings or studies presented in scientific articles (Putra, 2021). This research method is a process or method carried out by researchers to solve problems raised in a research study. The research method means collecting valid data to be explained in the article as evidence of the correctness of the resolution of the problem raised. The method used must be in line with scientific characteristics, namely rational, empirical, and systematic. The research method carried out by researchers in this article also uses literature study to find more concrete data, namely by searching and reading books, journals, papers or websites related to Leveraging Technology To enhance Reading Comprehension. After all qualitative data is collected, then the researcher will explain descriptively or called qualitative descriptive analysis.



RESULTS AND DISCUSSION

Introduction

Technology has changed the way we learn and use information. In the context of reading comprehension, technology can be an effective tool for improving students' reading comprehension. This article explores the impact of technology on reading comprehension and discusses its potential benefits and challenges. The Role of Technology in Improving Reading Comprehension Technology can improve reading comprehension by providing students with interactive and engaging learning experiences. This includes the use of digital resources such as educational websites, online platforms and multimedia materials. These tools can help students develop their reading skills by providing a variety of texts and assignments.

Personalized Learning Using Technology

Personalized learning using technology has emerged as a promising approach to improving reading abilities. This teaching methodology uses technology tools and platforms to tailor instruction to each student's unique needs, interests, and abilities. By incorporating personalized instruction into reading instruction, teachers can create more effective and engaging learning experiences for students. The Impact of Technology on Reading Comprehension Research has shown that technology can have a positive impact on reading comprehension. Research has shown that students who use technology for reading and learning perform better on reading comprehension tests than those who do not. This is because technology provides students with instant feedback, interactive activities, and personalized learning experiences that help them develop reading skills. Technology Used in Reading Comprehension Various types of technology are used in reading comprehension, including educational websites, online environments, multimedia materials, and digital reading media. These tools can help students develop their reading skills by providing a variety of texts and assignments. Benefits of technology in reading comprehension The benefits of technology in reading comprehension are increased engagement, increased reading ability, and increased motivation. Technology can also provide instant feedback to students to help them identify areas for improvement and track their progress. Challenges of Technology in Reading Comprehension Despite the benefits of technology in reading comprehension, challenges must also be considered. These include distractions, the need for appropriate training, and the risk of over-reliance on technology. Conclusion In short, technology has the potential to improve reading comprehension by providing students with an interactive and engaging learning experience. By using technology to teach reading, teachers can create more effective and engaging learning experiences for students. However, it is important to consider the challenges and limitations of technology in reading comprehension and ensure that technology is used in a way that complements traditional teaching methods. Future Directions Future directions in the use of technology to improve reading comprehension include the development of personalized and more adaptive teaching tools, integrating technology into in teaching reading, and exploring new techniques to improve reading skills. By continuing to innovate and increase the use of technology in reading comprehension, educators can help students develop the reading skills they need to succeed in the digital age.

The Role of Technology in Improving Reading Comprehension

Technology provides a variety of tools and resources that can be used to create interactive and engaging learning experiences that are important for developing reading skills. Digital resources such as educational websites, online platforms, and multimedia materials offer a variety of texts and assignments to suit different learning styles and preferences. For example, interactive e-books and educational programs can make reading more dynamic by adding multimedia elements such as audio, video, and animation that improve comprehension and retention of the material. Additionally, technology allows games to be incorporated into reading, which can increase student motivation and engagement. Game elements such as rewards, challenges, and progress tracking can make reading assignments more fun and stimulating, encouraging students to invest more effort and time in reading practice.

The Impact of Technology on Reading Comprehension

Research consistently shows that technology can have a positive impact on reading comprehension. Research shows that students who use digital reading tools and resources achieve better

reading comprehension than those who rely solely on traditional methods. This growth is due to several factors, including the availability of instant feedback, interactive activities, and personalized learning experiences. For example, research by Dalton and Proctor (2008) shows that students who use web-based reading environments that include interactive elements and immediate feedback showed significant improvements in reading comprehension compared to a control group using traditional print media. based on reading. materials The interactive nature of digital tools helps students stay engaged and actively process text, resulting in better understanding and retention.

Technology Used in Reading Comprehension

A variety of techniques are used to support reading comprehension, each with unique benefits. Educational websites provide access to a large number of texts and learning materials, often accompanied by interactive quizzes and comprehension activities. Online learning platforms can facilitate shared reading experiences where students can discuss texts, share knowledge, and provide feedback to their peers. Multimedia materials such as videos and interactive simulations can enrich the reading experience by providing additional context and visual aids to help students understand complex concept. Digital reading media, including e-books and audiobooks, offer flexible, easy-to-use reading options that meet a variety of preferences and needs. This technology not only improves text comprehension, but also increases digital literacy, which is very important in the 21st century.

Benefits of Technology in Reading Comprehension

Integrating technology into reading comprehension offers many benefits. Greater engagement is one of the most important benefits, as interactive and multimedia elements make reading more interesting for students. This increased engagement can improve reading outcomes because students are more likely to practice and improve their skills if they find the activity enjoyable and stimulating. Technology also provides immediate feedback, which is important for learning. Instant feedback on student performance allows them to quickly identify and correct errors, facilitating deeper understanding of the material. Additionally, technology allows progress to be tracked over time, helping students and teachers monitor progress and adjust teaching as needed.

Challenges of Technology in Reading Comprehension

Despite its many benefits, there are several challenges to overcome when integrating technology into reading comprehension. One of the biggest concerns is the potential for interference. With the abundance of digital content available, students may be tempted to engage in extracurricular activities, thereby reducing their focus on learning. Additionally, the effective use of technology in teaching requires appropriate training for both teachers and students. Teachers must know how to use digital tools and integrate them into their teaching, while students must develop their skills to navigate and use these technologies effectively. Without proper training, the potential benefits of this technology may not be fully realized. Another challenge is excessive technology-based risks. While digital tools can enhance learning, they should complement traditional teaching methods, not replace them. A balanced approach that integrates technology with traditional reading practices is essential to ensure that students develop well-rounded reading skills.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, technology has significant potential to improve reading comprehension by providing interactive and engaging learning experiences. By using digital resources, personalized learning platforms, and multimedia materials, educators can create more effective and personalized reading instruction. However, it is important to consider the challenges associated with using technology, such as distractions, the need for proper training, and the risk of overconfidence. By addressing these challenges and integrating technology into reading instruction, educators can improve students' reading skills and prepare them for success in the digital age.

In the future, the direction of using technology aimed at improving reading comprehension is the development of more individual and adaptive learning tools. Advances in artificial intelligence and machine learning can result in systems that better understand and respond to individual student needs, thereby providing more personalized instruction. Additionally, exploring new technologies and tools such as virtual reality and augmented reality can provide immersive and interactive reading experiences that further improve comprehension. By continuing to innovate and integrate technology into reading instruction, educators can help students develop the critical reading skills necessary for success



academics and lifelong learning. Embracing these advances and maintaining a balanced approach ensures that technology is a powerful ally in improving reading ability.

BIBLIOGRAPHY

- Dalton, B., & Proctor, C. P. (2008). The changing landscape of text and comprehension in the age of new literacies. *Handbook of Research on New Literacies*, 297-324.
- Lee, J., & Reeves, T. C. (2012). Edgar Dale's cone of experience: A quasi-experimental analysis of multimedia in classroom learning. *Journal of Educational Computing Research*, 46(4), 413-430.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? -- a literature review of empirical studies on gamification. *Proceedings of the 47th Hawaii International Conference on System Sciences*, 3025-3034.
- Pane, J. F., Steiner, E. D., Baird, M. D., & Hamilton, L. S. (2015). *Continued Progress: Promising Evidence on Personalized Learning*. RAND Corporation.
- Hall, T. E., Meyer, A., & Rose, D. H. (2012). *Universal Design for Learning in the Classroom: Practical Applications*. Guilford Press.
- Slavin, R. E., Cheung, A., Groff, C., & Lake, C. (2008). Effective reading programs for middle and high schools: A best-evidence synthesis. *Reading Research Quarterly*, 43(3), 290-322.
- Roschelle, J., Pea, R., Hoadley, C., Gordin, D., & Means, B. (2000). Changing How and What Children Learn in School with Computer-Based Technologies. *The Future of Children*, 10(2), 76-101.
- Dalton, B., & Proctor, C. P. (2008). The changing landscape of text and comprehension in the age of new literacies. *Handbook of Research on New Literacies*, 297-324.
- Kiili, K., Laurinen, L., Marttunen, M., & Leu, D. J. (2012). Working on Understanding During Collaborative Online Reading. *Journal of Literacy Research*, 44(4), 448-482.
- Hutchison, A., Beschorner, B., & Schmidt-Crawford, D. (2012). Exploring the use of the iPad for literacy learning. *The Reading Teacher*, 66(1), 15-23.
- Mayer, R. E. (2009). *Multimedia Learning* (2nd ed.). Cambridge University Press.
- Kapp, K. M. (2012). *The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education*. Wiley.
- Hattie, J. (2008). *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*. Routledge.
- Carr, N. (2010). *The Shallows: What the Internet Is Doing to Our Brains*. W. W. Norton & Company.
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher Technology Change: How Knowledge, Confidence, Beliefs, and Culture Intersect. *Journal of Research on Technology in Education*, 42(3), 255-284.
- Selwyn, N. (2011).
- Çalışkan, E. F., & Ulaş, A. H. (2022). The effect of parent-involved reading activities on primary school students' reading comprehension skills, reading motivation, and attitudes towards reading. *International Electronic Journal of Elementary Education*, 14(4), 509-524. <https://doi.org/10.26822/iejee.2022.260>