A Critical Review: Technology as Learning Media in Teaching Reading

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ABSTRACT

Reading is a language skill that makes it possible to understand information clearly, this skill is one of the basic skills that allows students to improve their performance. Technology is something interesting for students at this time, especially for the Generation Z students who were born around the year of 1995-2012. The purpose of this article is to do a Systematic Literature Review (SLR) on technology as learning media in teaching reading. This article will provide research on technology as a learning medial for teaching reading from 2015 to 2022 across several countries, primarily focusing on high school students. Various data collection methods were used, including questionnaires, interviews, tests, and observations. 14 studies examined the effectiveness of technology in teaching reading, highlighting its importance in creating engaging educational environments and improving reading skills through personalized learning experiences. These studies emphasized the transformative impact of technology-based tools, particularly apps, in enhancing reading skill development. Early reading media based on technology, incorporating visuals, animations, audio, and interactive quizzes, were found to enhance learning experiences, making reading more enjoyable and effective.

KEYWORDS
Technology;   Reading;
Learning Media

ABSTRAK

Membaca merupakan suatu keterampilan berbahasa yang memungkinkan untuk memahami suatu informasi dengan jelas, keterampilan ini merupakan salah satu keterampilan dasar yang memungkinkan siswa untuk meningkatkan prestasinya. Teknologi menjadi sesuatu yang menarik bagi pelajar saat ini, khususnya bagi pelajar Generasi Z yang lahir sekitar tahun 1995-2012. Tujuan dari artikel ini adalah untuk melakukan Tinjauan Pustaka Sistematis (SLR) tentang teknologi sebagai media pembelajaran dalam pengajaran membaca. Artikel ini akan memberikan penelitian tentang teknologi sebagai media pembelajaran untuk pengajaran membaca dari tahun 2015 hingga 2022 di beberapa negara,

KATA KUNCI
Teknologi;   Membaca;
Media Pembelajaran

*terutama dengan fokus pada siswa sekolah menengah.
Berbagai metode pengumpulan data digunakan antara lain
angket, wawancara, tes, dan observasi. 14 penelitian
meneliti efektivitas teknologi dalam pengajaran membaca,
menyoroti pentingnya teknologi dalam menciptakan
lingkungan pendidikan yang menarik dan meningkatkan
keterampilan membaca melalui pengalaman belajar yang
dipersonalisasi. Studi-studi ini menekankan dampak
transformatif dari alat-alat berbasis teknologi, khususnya
aplikasi, dalam meningkatkan pengembangan keterampilan
membaca. Media membaca usia dini berbasis teknologi,
yang dilengkapi dengan visual, animasi, audio, dan kuis
interaktif, terbukti dapat meningkatkan pengalaman belajar,
menjadikan membaca lebih menyenangkan dan efektif.*

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INTRODUCTION

The integration of technology in education has revolutionized the way students acquire and develop literacy skills in an increasingly digitalized world. Reading is one of the essential skills in English. The term 'reading' in various modern references occasionally refers to the ability to understand written orthography (Fatimah, 2020). Reading is an activity that involves obtaining knowledge and information from written language, such as words, symbols, and pictures. Moreover, reading includes gaining meaning from printed words and making sense for a variety of goals such as gaining new knowledge, for pleasure, and for interest (Napratilora et al., 2020). Reading is the most important skill in the educational context since it can assess students general language competence (Fitriani, 2019). Through reading, students can provide new experiences that will form the basis for the acquisition of achievement (Pardede, 2019). As technology advances, it provides a wide range of tools and platforms that teachers can use to improve reading instruction.

Reading is not only improves personal, spiritual, and mental development but also improves entertainment, inspiration, and knowledge (Puspita & Syamsi, 2019). Reading is a linguistic ability that allows students to efficiently process information; it is one of the fundamental skills that allows students to enhance their performance. There are numerous advantages to reading, such as expanding one's vocabulary and gaining a greater understanding of various cultures. Reading is an absolute must in the world of education. Students get the majority of their knowledge from reading activities. Students' ability to read will have a big impact on their ability to advance and complete their education. The increased needs of the educational sector urge everyone to have good learning techniques. Reading ability is critical to the achievement of learning outcomes.

Technology is an exciting topic for students nowadays, particularly Generation Z students born between 1995 and 2012 (Stillman, David; Stillman, 2018). They are prepared to have 10 skills, including mastery of the English language, before facing Revolution 4.0. The young generation appears to be unable to function without the use of technology, it is critical to incorporate technology into the learning process.It means that teachers must be able to construct suitable learning by using technology into the learning process (Priyanti et al., 2019). With the growth of technology, the advancement of Indonesian education is increasing. Furthermore, as technology advances, teachers must create or seek new English teaching innovations in the classroom, such as using media-based online media applications.In other words, teaching media is a tool that assists teachers in developing an effective and efficient learning process. Using technology as a learning medium can improve students' feelings, willingness, and attention when studying (Putu Sri Adnyani et al., 2020). As a result, educators must be able to use technology to help the teaching and learning process both in and out of the classroom (Gawdy Prananosa et al., 2020).

The purpose of this article is to do a Systematic Literature Review (SLR) on technology as learning media in teaching reading. This article will provide significant insights for teachers, researchers, and educational practitioners in comprehending the learning media in teaching reading by presenting a systematic and extensive literature review. As a result, this study will look deeper into how learning media in teaching reading on a survey of the analysis results of research articles to determine whether this learning media is effectively implemented in teaching reading and then be applied in various classroom lessons so that learning objectives can be met and well received by students.

METHOD

The systematic literature review (SLR) design was formulated in this research. The literature review carried out in writing this article used the PRISMA (*Preferred Reporting Items for Systematic Review and Meta-Analysis*) method. Review-type articles offer valuable insights into diverse subjects but may lack comprehensiveness and detailed methodologies, potentially leading to bias. Systematic review methodologies, like the PRISMA guidelines, provide structured approaches to mitigate bias and enhance the reliability of evidence synthesis, ultimately improving decision-making in research fields (Selçuk, 2019). This review mainly focuses on technology as learning media in teaching reading.

Literature Search Strategy

In order to find the relevant literature, a literature search was conducted using four essential criteria or keywords: (1) reading learning media, (2) learning media to promote reading comprehension skill, (3) technology-based learning for reading, (4) mobile learning media in teaching reading. The search was conducted in Oktober 2023 using three databases, those are Connectedpapers.com, ProQuest and ERIC.

Inclusion and Exclusion Criteria

After searching the literature, 332 publications were prepared for screening the four inclusion criteria. The inclusion criteria are (1) article published between 2018-2023, (2) article should be written in English, (3) article should be addressing technology as learning media, (4) article should be addressing teaching reading. The studies included in this research were chosen using a one-step selection process. The next step was to screen the titles and abstracts of the articles for fulfilment of the inclusion criteria. The

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primary screening was then carried out on all identified records. Following reading the title and abstract, the researcher conducted a comprehensive review by reading the full-text. Articles focusing on technology as a learning media in the teaching of reading were chosen as the subject of this study. A total of 332 studies were eliminated because they did not match the inclusion criteria, resulting in 20 records moving on to the next stage.

Table 1: The process of literature search and selection.

Identification	Articles identified by the keywords search on the databases (n = 53 + 42 + 237) = 332	
Screening	Title and abstract screening	Records excluded (n = 307)
Eligibility	Remaining articles (n = 25)	
	In-depth analysis	Records excluded (n = 5)
Included	Articles included in the systematic literature review (n = 20)	

FINDING AND DISCUSSION

There will be a report against two research questions in the results section. The first is about the Characteristics of Technology as a Learning Media in Teaching Reading. The second is the effectiveness of implementing technology as learning media in teaching reading.

The Characteristics of Technology as Learning Media in Teaching Reading

Table 2 provides an overview of the reviewed articles. The table summarized the research context, research design, sample size, and data collection method for learning media in teaching reading. The listed papers' publication years range from 2015 to 2022. The included studies were conducted in five different countries. Those countries are Indonesia (n = 16), China (n = 2), Iraq (n = 1) and Nepal (n = 1). The majority of the included studies, 13 in total, were conducted in high school. 1 study was conducted in kindergarten, 4 in elementary school, and 3 in university. All of the studies considered in this study addressed the English language. Based on this finding, technology as a learning media for teaching reading is mostly used in high school.

The most frequently methods used in collecting data on learning media in teaching reading were questionnaire (n = 9), interview (n = 6), test (n = 4), and observation (n = 4). The collection data rarely used were library research (n = 1).

Table 2: Overview of studies included in systematic review

Author(s)	Year	Context			Research Design	Data Collection Method
		Country/Region	Education Sector	Subject		
1. Annisa, R. N.	2020	Indonesia	Elementary school	English	Qualitative	Library research
2. As Sabiq, Agus Husein	2018	Indonesia	Junior high school	English	CAR	Test

3. Asmara, C. H., Muhammad, R. N., & Almubarokah, Q.	2022	Indonesia	University	English	Experimental	Test
4. Tahsein, Y.	2015	Iraq	University	English	Qantitattive	Questionnaire
Ghimire, S. P.	2022	Nepal	Junior high school	English	Qualitative	Interview
5. Hapsari, E. D., Yuda, Y. P., & Mubarok, Y. A.	2022	Indonesia	Kindergarten	English	R&D	Observation, interviews, and questionnaire
6. Hasanudin, C., Fitrianingsih, A., Utomo, D. N. P., & Fitriyana, N.	2022	Indonesia	Senior high school	English	Qualitative	Questionnaire and interview
7. Ji, S., Qin, X., & Li, K.	2022	China	Junior high school	English	Mix Method	Interview and questionnaire
8. Katoningsih, S., Wardhani, J., Fauziah, N., & Astuti, W.	2020	Indonesia	Senior high school	English	R&D	Questionnaire
9. Lestari, N. P. Y., & Wibawa, I. M. C.	2021	Indonesia	Elementary school	English	R&D	Questionnaire
10. Muhfiyanti, M., Mulyadi, D., & Aimah, S.	2021	Indonesia	Senior high school	English	R&D	Questionnaire and test
11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M.	2022	Indonesia	Elementary school	English	R&D	Questionnaire and scales
12. Napratilora, M., Lisa, H., & Bangsawan, I.	2020	Indonesia	Junior high school	English	Qualitative	Observation and interview
13. Nurani, R. Z., & Mahendra, H. H.	2019	Indonesia	Primary school	English	Qualitative	Observation and interview
15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U.	2021	Indonesia	University	English	Quantitative	Test
16. Rahmawati, C., Suhardi, & Mustadi, A.	2021	Indonesia	Elementary school	English	Literature review	-
17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno.	2019	Indonesia	Senior high school	English	R&D	Test
18. Sari Manik, R. M.	2019	Indonesia	Junior high school	English	CAR	Test
19. Sasmiadi, B., Andayani, A., & Setiawan, B.	2019	Indonesia	Senior high school	English	Qualitative	Observation and questionnaire
20. Xu, B.	2018	China	Senior high school	English	R&D	Test

The Effectiveness of Implementing Technology as Learning Media in Teaching Reading

A total of 14 studies have reported the effectiveness of implementing technology as a learning media in teaching reading (1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 20). The studies examined the effectiveness of a wide range of teaching resources, including video content, storybooks, and digital applications. The major purpose was to improve students' competences, with a focus on improving their reading skills. The researches focused on the critical significance of educational innovations in enhancing adaptive and individualized learning processes. The researches provide strong support for students' reading skills development through an effective combination of multiple teaching resources.

The important feature of the studies was to emphasize the use of technology-based tools. It highlighted the critical importance of apps in facilitating the learning interaction process. The research aims to highlight the transformative impact of digital technologies in enriching the overall learning experience by incorporating technology into the educational landscape. The findings emphasized not only the significance of these new approaches but also their significant potential in establishing a more engaging and successful educational environment, particularly in the field of reading skill development.

Early reading learning media based on technology is a potential option for teachers looking for effective ways to introduce letters and words to their students. This media provides a playful impression that learners respond to by incorporating visuals, animations, and audio. The interactive nature of these aspects draws learners' attention, making the early stages of reading more interesting and enjoyable. The addition of a quiz function improves the learning experience further by providing an essential tool for measuring the level of knowledge that learners have gained from the provided content. This feature assesses comprehension while additionally promoting active engagement and reinforcing previously learned topics.

CONCLUSION

The use of technology-based learning media for reading appears to be a feasible and efficient method for teachers looking for creative methods to introduce reading to their students. The use of visually appealing components such as images, animations, and audio results in a playful and engaging learning environment. This method not only attracts students' attention but also makes the process of developing early reading abilities pleasurable. Furthermore, the introduction of interactive elements enhances the learning experience. The ability to assess a students' knowledge not only offers information about their development but also encourages active engagement and reinforces the material gained. The adaptive and interactive character of technology-based learning media fits with students' different learning styles, resulting in a more comprehensive and successful instructional approach.

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