

J-SHMIC: Journal of English for Academic

ISSN: 2641-1446 (Online) ISSN: 2356-2404 (Print) Homepage: https://journal.uir.ac.id/index.php/jshmic

Vol 11, No 1, February 2024

A Critical Review: Technology as Learning Media in Teaching Reading

Abdul Hakim¹, Sri Wahyuni²

¹Postgraduate of State Institute of Islamic Studies of Kediri, Indonesia: munawirabdulhakim@gmail.com

²Postgraduate of State Institute of Islamic Studies of Kediri, Indonesia: swy090984@gmail.com

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 guizzes, were found to enhance learning experiences, making reading more enjoyable and effective.

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,

KEYWORDS

Technology; Reading; Learning Media

KATA KUNCI

Teknologi; Membaca; Media Pembelajaran Vol 11, No 1, February 2024

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.

Corresponding Author:

Abdul Hakim

Postgraduate of State Institute of Islamic Studies of Kediri munawirabdulhakim@gmail.com

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

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.

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

Table 1: The process of literature search and selection.

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

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

| 3. Asmara, C. H., Muhammad, R. N., & Almubarokah, Q. 4. Tahsein, Y. 2015 Iraq University English Qualitative Questionnaire Interview School Stripping School | | | | | | | , |
|--|-------------------|------|-----------|--------------|-----------|---|---------------|
| N., & Almuharokah, Q. 4. Tahsein, Y. Ghimire, S. P. 2022 Nepal Junior high school 5. Hapsari, E. D., 2022 Indonesia Kindergarten 6. Hasanudin, C., Furrianingsih, A., Utomo, D. N. P., & Fitriyana, N. 7. Ji, S., Qin, X., & 2022 China Junior high school 6. Katoningsih, S., Wardhani, J., Fauziah, N., & Astuti, W. 9. Lestari, N. P. Y., & Wibawa, I., M. C. 10. Muhfiyanti, M. C. 11. Mustadi, A., Sayakiti, O. M., Rachmah, E. N., Zubaidah, E. N., Zubaid | 3. Asmara, C. H., | 2022 | Indonesia | University | English | Experimental | Test |
| Almubarokah, Q. 4. Tahsein, Y. Ghimire, S. P. Glish (S. P.) Gualitative (S | | | | | | | |
| 4. Tahsein, Y. 2015 Iraq University English Qualitative Questionnaire Ghimire, S. P. 2022 Nepal Junior high English Qualitative Interview School Stapartie, E. D., 2022 Indonesia Kindergarten English R&D Observation, interviews, and questionnaire Questionnaire G. Hasanudin, C., Fitrianingsih, A., Utomo, D. N. P., & Fitriyana, N. Fitriyana, N. 2022 Indonesia Senior high English Gamitative Questionnaire Questionnaire Gamitative Questionnaire Gamitative Questionnaire Gamitative Questionnaire Gamitative Questionnaire Gamitative Gamit | | | | | | | |
| Ghimire, S. P. 2022 Nepal Junior high school 5. Hapsari, E. D., Yuda, Y. P., & Mubarok, Y. A. & 2022 Indonesia Senior high school 6. Hasanudin, C., Fitrianingsih, A., Utomo, D. N. P., & Fitriyana, N. 7. Ji, S., Qin, X., & 2022 China School Litter, & Fitriyana, N. 7. Ji, S., Qin, X., & 2022 China School English English Qualitative English School English School English English English English Charteries English School English Englis | | 2017 | | *** | - · · · | | |
| School S. Hapsari, E. D., Yuda, Y. P., & Mubarok, Y. A. 6. Hasanudin, C., Eftrianingsih, A., Utomo, D. N. P., & Fitriyana, N. 7. Ji, S., Qin, X., & 2022 China Junior high school S. Katoningsih, S., Wardhani, J., Fauziah, N., & Astuti, W. 9. Lestari, N. P. Y., & Wibawa, I. M. C. 10. Muhfiyanti, M. C. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widahi, N. Rochsantiningsih, D., & Wishani, N. Rochsantiningsih, D., & Suharni, N. Rochsantiningsih, D., & Suharni | | | | | | | |
| 5. Hapsari, E. D., Yuda, Y. P., & Mubarok, Y. A. 6. Hasanudin, C., Etrianingsih, A., Utomo, D. N. P., & Fitriyana, N. 7. Ji, S., Qin, X., & 2022 | Ghimire, S. P. | 2022 | Nepal | | English | Qualitative | Interview |
| Yuda, Y. P., & Mubarok, Y. A. | SH TED | 2022 | т 1 . | | E 1' 1 | D 0 D | 01 |
| Mubarok, Y. A. 6. Hasanudin, C., Fitrianingsih, A., Utomo, D. N. P., & Fitriyana, N. 7. Ji, S., Qin, X., & 2022 China Junior high school English R&D Questionnaire and interview and questionnaire school English R&D Questionnaire and interview and questionnaire Senior high school English R&D Questionnaire Senior high Senio | | 2022 | Indonesia | Kindergarten | English | R&D | |
| 6. Hasanudin, C., Fitrianingsih, A., Utomo, D. N. P., & Fitriyana, N. 7. Ji, S., Qin, X., & Li, K. 8. Katoningsih, S., Wardhani, J., Fauziah, N., & Astuti, W. 9. Lestari, N. P. Y., & Wibawa, I. M. C. 10. Muhfiyanti, M., Mudadi, D., & Aimah, S. 11. Mustadi, A., Zugariah, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Schulze, K. M. 14. H. 15. Punaji, R., Zugariah, R. & Widiati, U. 16. Rahmawati, C., Subarno. 17. Suryani, N., & Widiati, U. 19. Sasmiadi, B., & Widiati, Q. 19. Sasmiadi, B., & Subarno. 19. Sasmiadi, B., & Schulze, K. M. 11. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Subarno. 19. Sasmiadi, B., & Schulze, K. M. 19. Sasmiadi, B., & Suryani, N., Rochsantiningsih, D., & Subarno. 19. Sasmiadi, B., A., Schulze, K. M. 19. Sasmiadi, B., A., Suryani, N., Rochsantiningsih, D., & Subarno. 19. Sasmiadi, B., A., Schulze, R. M. 19. Sasmiadi, B., A., Suryani, N., Rochsantiningsih, D., & Subarno. 19. Sasmiadi, B., A., M., Schuan, B. 2019 Indonesia Senior high school 2010 Indonesia Senior high school 2011 Indonesia Senior high school 2011 Indonesia Senior high school 2012 Indonesia Senior high school 2013 Indonesia Senior high school 2014 Indonesia Senior high school 2015 English R&D Test 2015 A. R&D Test 2015 R&D Test 2016 R&D Test 2016 R&D Test 2017 Senior high school 2016 English R&D Test 2017 Senior high school 2018 R&D Test 2018 R&D Test | | | | | | | |
| 6. Hasamudin, C., Fitrianingsih, A., Utomo, D. N. P., & Fitriyana, N. 7. Ji, S., Qin, X., & Etiriyana, N. 8. Katoningsih, S., Bartanin, J., Fauziah, N., & Astuti, W. 9. Lestari, N. P. Y., & Wibawa, I. M. C. 10. Muhfiyanti, M., Mulyadi, D., & Aimah, S. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A., Setyokari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. Junior high school Primary school Primar | Widdalok, I. A. | | | | | | |
| Fitrianingsih, A., Utomo, D. N. P., & Fitriyana, N. 7. Ji, S., Qin, X., & 2022 China Junior high school English school English R&D Questionnaire 8. Katoningsih, S., Wardhani, J., Fauziah, N., & Astuti, W. 9. Lestari, N. P. 7. Ji, S., Qin, X., & 2020 Indonesia Senior high school English R&D Questionnaire 9. Lestari, N. P. 7. Ji, S., Qin, X., & Wardhani, J., & Astuti, W. 9. Lestari, N. P. 9. Lestari, N. P. 10. Muhfiyanti, M., C., & Wibawa, I. M. C. 10. Muhfiyanti, M., Mulyadi, D., & Aimah, S. 11. Mustadi, A., 2022 Indonesia Elementary school English R&D Questionnaire and test 11. Mustadi, A., & School English R&D Questionnaire and test 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & 2019 Indonesia Junior high school 15. Punaji, R., Setyosari, P., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Setyosari, P., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2018 China Senior high English R&D Test 20. Xu, B. 2018 China Senior high English R&D Test 20. Xu, B. 2018 China Senior high English CAR Test 20. Xu, B. 2018 China Senior high English R&D Test 20. Xu, B. 2018 China Senior high English R&D Test 20. Xu, B. 2018 China Senior high English R&D Test 2018 Test Test 2019 Test 2019 Test Test 2019 Test 2010 Test 2 | 6 Hasanudin C | 2022 | Indonesia | Senior high | Fnolish | Qualitative | |
| Utomo, D. N. P., & Fitriyana, N. 2018. China Junior high school s | | 2022 | maonesia | | Liigiisii | Quantative | |
| & Fitriyana, N.2022ChinaJunior high schoolEnglish schoolMix Method questionnaire questionnaire8. Katoningsih, S., Wardhani, J., Pauziah, N., & Astuti, W.2020IndonesiaSenior high schoolEnglish R&DQuestionnaire9. Lestari, N. P. Y., & Wibawa, I. M. C.2021IndonesiaElementary schoolEnglish R&DQuestionnaire10. Muhfiyanti, M., Mulyadi, D., & Aimah, S.2021IndonesiaSenior high schoolR&DQuestionnaire and test11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M.2022IndonesiaElementary schoolR&DQuestionnaire and test13. Nurani, R. Z., & Mandendra, H. H.2020IndonesiaJunior high schoolQualitative schoolObservation and interview and questionnaire questionnaire school15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U.2021IndonesiaPrimary schoolQualitative post qualitative schoolDeservation and interview and puestionnaire questionnaire questionnaire provided and questionnaire provided pro | | | | School | | | and interview |
| 7. Ji, S., Qin, X., & Li, K. 2022 China School English R&D Questionnaire | | | | | | | |
| & Li, K. 8. Katoningsih, S., 2020 Indonesia Senior high school 9. Lestari, N. P. Y., & Wibawa, I. M. C. 10. Muhfiyanti, M., 2021 Indonesia Senior high school 11. Mustadi, A., 2022 Indonesia Senior high school 12. Napratilora, N., & Ashmah, S. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., 2019 Indonesia School 13. Nurani, R. Z., 2019 Indonesia School 14. Seyswandi, D., & Wibawa, I. M., Lisa, H., & Bangsawan, I. 15. Punaji, R., 2021 Indonesia School 16. Rahmawati, C., Suhardi, & Widati, U. 16. Rahmawati, C., Suhardi, & Widati, U. 17. Sari, A. I., Suyani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 2019 Indonesia Senior high school 19. Sasmiadi, B., Andayani, A., & Senior high school 19. Sasmiadi, B., Andayani, A., & Senior high school 19. Sasmiadi, B., Andayani, A., & Senior high school 19. Sasmiadi, B., Andayani, A., & Senior high school 19. Sasmiadi, B., Andayani, A., & Senior high school 19. Sasmiadi, B., Andayani, A., & Senior high school 19. Sasmiadi, B., Andayani, A., & Senior high school 19. Sasmiadi, B., Andayani, A., & Senior high school 10. Validative observation and questionnaire mand school sch | | 2022 | China | Junior high | English | Mix Method | Interview and |
| 8. Katoningsih, S., Wardhani, J., Fauziah, N., & Astuti, W. 9. Lestari, N. P. Y., & Wibawa, I. M. C. 10. Muhfiyanti, M., Mayadi, D., & Aimah, S. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Wibawan, I. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suyani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 2019 Indonesia Senior high school 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2018 China Senior high school Senior high school Senior high school English R. R.D Questionnaire and test school Regish R. C. Questionnaire and test school Regish R. C. Questionnaire and test school Senior high school Senior high school English Qualitative Observation and interview University English Quantitative Test School Senior high school Senior high school English CAR Test School Senior high school R. C. Questionnaire school Senior high school R. C. AR Test School Senior high school | | 2022 | | | Ziigiisii | 111111111111111111111111111111111111111 | |
| Wardhani, J., Fauziah, N., & Astuti, W. 9. Lestari, N. P. Y., & Wibawa, I. M. C. 10. Muhfiyanti, M., Mulyadi, D., & Aimah, S. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Sulyari, A., Rochmahi, B., N., Setyosari, P., Kuswandi, D., & Widiati, U. 17. Sari, A. I., Sunyani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 2019 Indonesia Senior high school Seni | | 2020 | Indonesia | | English | R&D | |
| Fauziah, N., & Astuti, W. P. 2021 Indonesia Elementary school M. C. 10. Muhfiyanti, M. C. 11. Muhfiyanti, M., Muhjadi, D., & Aimah, S. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Widiati, U. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Sudyardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 2019 Indonesia Senior high school 19. Sasmiadi, B., And Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Zu, M. B. 2018 China Senior high English R&D Questionnaire and test R&D Questionnaire and scales R&D Questionnaire and test R&D Questionnaire and questionnaire and questionnaire and test R&D Questionnaire and questionnaire and questionnaire and questionnaire and test R&D Test R&D Questionnaire and question and questionnaire and question and question and questionnaire and question and question and questionnaire and question and | | | | | | | (|
| Astuti, W. 9. Lestari, N. P. Y., & Wibawa, I. M. C. 10. Muhfiyanti, M., Mulyadi, D., & Aimah, S. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahandra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suyani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 2019 Indonesia Elementary school English R&D Questionnaire and scales Perimary school English Qualitative Deservation and interview Benglish Qualitative Deservation and interview English Qualitative Deservation and interview English Qualitative Deservation and interview English Quantitative Deservation and interview Test Test Test Test CAR Test Observation and interview Fenglish CAR Test CAR Test CAR Test Andayani, A., & Senior high School English R&D Test CAR CAR Test CAR CAR Test CAR CAR Test CAR CAR CAR CAR CAR CAR CAR CA | | | | | | | |
| Y., & Wibawa, I. M. C. 10. Muhfiyanti, M., Mulyadi, D., & Aimah, S. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 2019 Indonesia Senior high school R&D Questionnaire and test R&D Qualitative Observation and interview Doservation and interview Test Test Setyosari, P., Kuswandi, D., & Widiati, U. Indonesia Senior high school Senior high school Senior high school Senior high school Test Test Observation and rest ARD Test | · · · · | | | | | | |
| Y., & Wibawa, I. M. C. 10. Muhfiyanti, M., Mulyadi, D., & Aimah, S. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 2019 Indonesia Senior high school R&D Questionnaire and test R&D Qualitative Observation and interview Doservation and interview Test Test Setyosari, P., Kuswandi, D., & Widiati, U. Indonesia Senior high school Senior high school Senior high school Senior high school Test Test Observation and rest ARD Test | 9. Lestari, N. P. | 2021 | Indonesia | Elementary | English | R&D | Questionnaire |
| 10. Muhfiyanti, M., Mulyadi, D., & Aimah, S. | | | | | | | ` |
| M., Mulyadi, D., & Aimah, S. 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2022 Indonesia School School Elementary school English R&D Generation and interview English CAR Test School English R&D Test School English RAMD Test School English R&D Test School English RAMD Test Test Test School English RAMD Test Test Test School English RAMD Test Test School English RAMD Test Test School English RAMD Test Test Test Test Test Test Test Test | M. C. | | | | | | |
| 8 Aimah, S. 11 Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12 Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2021 Indonesia Elementary school English R&D Qualitative Observation and interview English Quantitative Test English C., Suhardi, & CAR Test School English School English R&D Test School English R&D Test School English R&D Test School Test School English R&D Test School Test School English RAD Test Test School English RAD Test Test School English RAD Test School Test School English RAD Test Test School English RAD Test Test School Test School English School English RAD Test Test Sch | 10. Muhfiyanti, | 2021 | Indonesia | Senior high | English | R&D | Questionnaire |
| 11. Mustadi, A., Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2018 China Chila China Chila | M., Mulyadi, D., | | | school | | | and test |
| Sayekti, O. M., Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2018 China Senior high School School School School School Bulish Qualitative Observation and interview Observation and interview English Quantitative Test Cuniversity School Senior high School R&D Test Observation Andayani, A., & Setiawan, B. CAR Test Observation And Qualitative | & Aimah, S. | | | | | | |
| Rochmah, E. N., Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 202 Indonesia Junior high school Primary school Primary school University English Cualitative Observation and interview Pest Senjor high school Senior high school Senior high school Primary school Primary school English Cuantitative Test Test Test Observation and interview Fest Car Test Observation and interview Fest Car Test Observation and questionnaire Primary school All Dindonesia Junior high school English Car Test Observation and questionnaire Observation and questionnaire | | 2022 | Indonesia | | English | R&D | |
| Zubaidah, E., Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2018 China Senior high School Indonesia Senior high School Primary School Primary School University English Qualitative Observation and interview Observation and interview Fest Cest Senior high School Primary School Dualitative Observation Senior high School Observation Andayani, A., & Setiawan, B. Observation Senior high School S | | | | school | | | and scales |
| Sugiarsih, S., & Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2020 Indonesia Junior high school Indonesia Senior high school | • | | | | | | |
| Schulze, K. M. 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 201 Indonesia Indonesia Junior high school Primary school University English Qualitative Observation and interview Penglish Quantitative Test Cenglish Senior high school Indonesia Senior high school Senior high school English CAR Test Observation Andayani, A., & Senior high school English R&D Test Observation Andayani, A., & Senior high school English CAR Test Observation Andayani, A., & Senior high school English CAR Test Observation Andayani, A., & Senior high school English CAR Test Observation Andayani, A., & Senior high school English CAR Test Observation Andayani, A., & Senior high school English CAR Test Observation Andayani, A., & Senior high school English CAR Test Test Observation Andayani, A., & Senior high school English CAR Test Test | | | | | | | |
| 12. Napratilora, M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & 2019 Indonesia Primary school Primary school H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. P. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2021 Indonesia Junior high school Primary School | | | | | | | |
| M., Lisa, H., & Bangsawan, I. 13. Nurani, R. Z., & 2019 Indonesia Primary school 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. D. & Suharno. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2018 Indonesia School Sc | | 2020 | <u> </u> | * | - · · · | 0.11 | 61 |
| Bangsawan, I. 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2019 Indonesia Primary school | | 2020 | Indonesia | | English | Qualitative | |
| 13. Nurani, R. Z., & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2019 Indonesia Primary school University English Quantitative Test English China Senior high School Primary school Senior high School Primary school Senior high School English R&D Observation and interview Test Test Observation and interview Test Test Car Test Observation and interview Test Fenglish China Senior high School English CAR English R&D Test Observation and questionnaire | | | | school | | | and interview |
| & Mahendra, H. H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2018 China Senior high School School Literature review English Literature review English Literature review CAR Test Observation and questionnaire R&D Test | | 2010 | T 1 . | ъ. | F 1: 1 | 0 11: :: | 01 |
| H. 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2021 Indonesia Elementary school Elementary school Senior high school Junior high school Senior high school English CAR Test Observation and questionnaire Test CAR Test Observation and questionnaire | | 2019 | Indonesia | | English | Qualitative | |
| 15. Punaji, R., Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2021 Indonesia Elementary school Elementary | | | | school | | | and interview |
| Setyosari, P., Kuswandi, D., & Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2018 China Senior high English CAR Senior high school Senior high school Elementary English Literature review Senior high English R&D Test CAR Test Observation and questionnaire | | 2021 | т 1 . | TT ' '4 | E 1' 1 | 0 | Т. 4 |
| Kuswandi, D., & Widiati, U.IndonesiaElementary schoolEnglish reviewLiterature review16. Rahmawati, C., Suhardi, & Mustadi, A.2021IndonesiaElementary schoolEnglish R&DTest17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno.2019IndonesiaSenior high schoolEnglish R&DTest18. Sari Manik, R. M.2019IndonesiaJunior high schoolEnglish CARTest19. Sasmiadi, B., Andayani, A., & Setiawan, B.2019IndonesiaSenior high schoolQualitative Observation and questionnaire20. Xu, B.2018ChinaSenior high EnglishR&DTest | | 2021 | Indonesia | University | English | Quantitative | Test |
| Widiati, U. 16. Rahmawati, C., Suhardi, & Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2018 China Senior high English CAR Senior high school Senior high school English CAR Fest R&D Test CAR Test Observation and questionnaire 7. Sari, A. I., Senior high school Senior high English R&D Test | | | | | | | |
| Test | | | | | | | |
| C., Suhardi, & School review Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2018 Indonesia school Senior high Senior high school Senior high Senior hi | | 2021 | Indonesia | Flementary | English | Literature | _ |
| Mustadi, A. 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2018 China Senior high school Senior high school Benglish R&D Test CAR Test CAR Test Observation and questionnaire R&D Test R&D Test Test Senior high school Test | | 2021 | madicsia | | Liigiisii | | _ |
| 17. Sari, A. I., Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2019 Indonesia Senior high school Senior high school Senior high school English R&D Test CAR Test Observation and questionnaire 20. Xu, B. 2018 China Senior high English R&D Test | | | | School | | 1011011 | |
| Suryani, N., Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2018 China Senior high English CAR Senior high school Senior high English Qualitative Observation and questionnaire R&D Test | | 2019 | Indonesia | Senior high | English | R&D | Test |
| Rochsantiningsih, D., & Suharno. 18. Sari Manik, R. M. 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 2018 China Senior high English CAR Senior high school English Qualitative Observation and questionnaire R&D Test | | 2017 | madnosia | | Linginon | T.C.D | 1000 |
| D., & Suharno. 18. Sari Manik, R. 2019 Indonesia Junior high school 19. Sasmiadi, B., Andayani, A., & Setiawan, B. 20. Xu, B. 2018 China Senior high English R&D Test | | | | 2511001 | | | |
| 18. Sari Manik, R. M.2019IndonesiaJunior high schoolEnglishCARTest19. Sasmiadi, B., Andayani, A., & Setiawan, B.2019IndonesiaSenior high schoolEnglishQualitativeObservation and questionnaire20. Xu, B.2018ChinaSenior highEnglishR&DTest | | | | | | | |
| M. school Senior high Senior high Setiawan, B. Senior high Senior | | 2019 | Indonesia | Junior high | English | CAR | Test |
| 19. Sasmiadi, B., Andayani, A., & Senior high Senior h | | | | | <i>3</i> | | |
| Andayani, A., & school and questionnaire 20. Xu, B. 2018 China Senior high English R&D Test | | 2019 | Indonesia | | English | Qualitative | Observation |
| Setiawan, B. questionnaire 20. Xu, B. 2018 China Senior high English R&D Test | | | | | | ` | and |
| 20. Xu, B. 2018 China Senior high English R&D Test | | | | | | | questionnaire |
| school | | 2018 | China | Senior high | English | R&D | |
| | | | | school | | | |

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.

REFERENCES

- Fatimah, A. N. (2020). Reading in Communication Perspective. *Jurnal Komunikasi Indonesia*, 9(1). https://doi.org/10.7454/JKI.V9I1.10790
- fitriani, somariah, & fitriani, somariah. (2019). A Child Language Acquisition in Indonesian and English Language: A Longitudinal case study. *Register Journal*, 12(2), 126–156. https://doi.org/10.18326/rgt.v12i2.126-156
- Gawdy Prananosa, A., Bengkulu, I., & PGRI Lubuklinggau, S. (2020). Penggunaan Teknologi Informasi dan Komunikasi dalam Sistem Manajemen Pembelajaran pada Masa Pandemi Covid 19. *Journal Of Administration and Educational Management (ALIGNMENT)*, 3(1), 1–10. https://doi.org/10.31539/ALIGNMENT.V3I1.1291
- Napratilora, M., Lisa, H., & Bangsawan, I. (2020). Using WhatsApp as a Learning Media in Teaching Reading. *MITRA PGMI: Jurnal Kependidikan MI*, 6(2), 116–125. https://doi.org/10.46963/mpgmi.v6i2.129
- Pardede, P. (2019). Print vs Digital Reading Comprehension in EFL: A Literature Review. JET (Journal of English Teaching), 5(2), 77. https://doi.org/10.33541/jet.v5i2.1062
- Priyanti, N. W. I., Santosa, M. H., & Dewi, K. S. (2019). Effect Of Quizizz Towards The Eleventh-Grade English Students' Reading Comprehension In Mobile Learning Context. *Language and Education Journal Undiksha*, 2(2), 71–80. https://doi.org/10.23887/LEJU.V2I2.20323
- Puspita, N. A., & Syamsi, K. (2019). The Effectiveness of Reciprocal Learning Strategy in Reading Short Story on VII Grade Students SMP Negeri 1 Kasihan Bantul. 297(Icille 2018), 249–254. https://doi.org/10.2991/icille-18.2019.52
- Putu Sri Adnyani, N., Surya, I., Surya Manuaba, I., Kt Ngr Semara Putra, D., & Kunci, K. (2020). Pengaruh Model Discovery Learning Berbantuan Media Audio Visual Terhadap Kompetensi Pengetahuan IPA. *Jurnal Penelitian Dan Pengembangan Pendidikan*, *4*(3), 398–408. https://doi.org/10.23887/JPPP.V4I3.27428
- Selçuk, A. A. (2019). A Guide for Systematic Reviews: PRISMA. *Turkish Archives of Otorhinolaryngology*, 57(1), 57. https://doi.org/10.5152/TAO.2019.4058
- Stillman, David; Stillman, J. (2018). Generasi Z: Memahami karakter generasi baru yang akan mengubah dunia kerja / David Stillman dan Jonah Stillman; penerjemah, Lina Jusuf. PT. Gramedia.