The Effectiveness of Using Digital Literacy to Enhance Student's Critical Thinking in English Language Teaching

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ABSTRACT
This study investigates the effectiveness of using digital literacy in english language teaching. The aim of this study is to find out the effectiveness of using media in teaching English language. This research is classified as a type of qualitative research using the literature study method to collect data related to the topic. The result shows that media digital has an effectiveness to teach English language. Besides that, there are several challenges such as a limited access to technology, quality of content, and potential distractions must be overcome to have the benefits of using digital media in learning.
Keywords: Digital literacy; Media digital; Effectiveness

INTRODUCTION

Today, world civilisation is developing rapidly on many fronts, including information technology and the internet. This has resulted in an abundance of digital information resources (Kurnianingsih, Rosini, & Ismayati, 2017). The internet has become a primary need for people in finding information, because it offers information that is fast, actual, and easy.

Digital native is a term used to describe the younger generation who live in the digital era. They are only able to access digital media without balancing it with the ability to obtain information for their self-development (Restianty, 2018). The current condition of students, especially senior high school students, is very dependent on search engines such as Google in finding information (Kurnianingsih, Rosini, & Ismayati, 2017).

This change brings new opportunities for educators or policy makers to expand and incorporate literacy into the education curriculum. In a broad sense, digital literacy is not simply the ability to use digital hardware and software, rather it includes an understanding of digital ethics, cybersecurity, data processing, and the ability to think and critically in an ever-changing digital world (Cynthia and Sihotang, 2023).

Suyono (2017) states that digital literacy is an ability related to reading, thinking, and writing activities with the aim of improving the ability to understand information critically, creatively, and reflectively. In addition, there is also Paul Gilster (1997) who defines digital literacy as the ability to use technology and information from digital devices effectively and efficiently in various contexts, such as academic, career, and daily life (Cynthia and Sihotang, 2023).

Martin (2006) explains that Digital literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesise digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process. Furthermore, Ali (2017) states that digital literacy is an ability that makes the perpetrator have the ability to find, evaluate, use, create information, and utilise it in a healthy, wise, intelligent, appropriate, and law-abiding

manner in order to foster communication and interaction in everyday life.

Thus, it can be interpreted that digital literacy is an effort to improve students' creative and critical thinking skills in using technology for academic and daily life. The implementation of digital literacy, it is hoped, will motivate students to take part in learning activities. It is also expected to improve the relationship between students and educators and improve students' ability to think creatively. Thus, the next generation of the nation, will be able to face competition in the current era of technological advancement (Dewi et al., 2021).

Digital literacy proficiency plays a crucial role in education as it relates to students' ability to develop their potential. With the advent of new advancements such as digital literacy, it is as if there is no distance between the source of information and the seeker. Everyone can easily access a variety of data quickly and efficiently in various locations and times. Digital literacy in education can improve academic achievement and support co-operation in the global competitive sphere (Cynthia and Sihotang, 2023). However, in order for learners not to misuse the information obtained from digital tools, learners must select accurate and credible information that learners need. Good digital literacy in education also helps improve people's knowledge of certain educational materials by increasing their curiosity and creativity (Hague and Payton, 2010).

Digital literacy is essential to improve learners' critical thinking and problem-solving skills. In the 21st century learning era, skills such as communication, collaboration, critical and creative thinking, and problem-solving skills are fundamental needs that every learner must have. These skills are essential to meet the challenges of the current era (Lase, 2019).

Education that develops students' critical thinking can produce individuals who are careful in making judgements and thus have a positive impact on literacy culture. Critical thinking is the ability of students to learn by using principles and concepts that focus on how and why to answer questions (Wardhani et al., 2016).

According to Siswono (Ana Ari Wahyu Suci & Abdul Haris Rosyidi, 2012), problem solving is the process or effort of a person in overcoming obstacles or difficulties when the answer or solution method is not yet clear. In solving problems, a person not only learns how to apply the knowledge and principles they have, but also finds the best way to combine various ideas and principles and control the way they think (Anwar & Amin, 2013).

REVIEW OF RELATED LITERATURE

There are several previous studies related to this topic such as research from Evi Mahsunah (2021) entitled Digital Literacy-Based English Learning during the Covid-19 Pandemic. The research data was taken through observation of the learning process and interviews with teachers and students about the digital literacy-based English learning process. The results showed that learning had been carried out face-to-face limited and the implementation of digital literacy-based English learning at SMA Ma'arif Sidoarjo went very well by referring to 3 levels of digital literacy development: Digital competence, Digital usage and digital transformation. Besides that, the study from Dewi Rosnita, Endang S, and Ari Siswati (2024) entitled Implementation of Digital Literacy in English Learning for SMK Students in Semarang Regency. The object of this study is the students of SMK Muhammadiyah Ungaran, Semarang Regency, class X as many as 30 students, and two English teachers. The results of this study show that digital literacy is proven to attract students' interest and help them to understand English more easily. Furthermore, a study entitled Technology Integration in English Language Learning in Post-Pandemic: A Case Study in SMA Kab. Majalengka by Eka Nurhidayat and friends (2022). This study explores teachers' perceptions of the impact

and factors of technology integration in English learning during the distance learning period. 10 high school English teachers in Majalengka district were selected as samples in this study. As a result, this study shows that the impact of technology integration is to increase motivation and engagement in language classes, enhance independent and learner-centred learning, and improve interaction and communication

METHODOLOGY

Literature study is a form of research carried out by researchers by collecting various books, scientific articles, and magazines that are relevant to the issues and objectives of the study (Danial and Warsiah, 2009). This method aims to reveal a variety of theories related to the problem being studied, as a reference in discussing the results of the research.

The method used by researcher in this study is Systematic Literature Review. Systematic Literature Review is an approach that aims to recognise, evaluate and interpret all existing findings on a research topic, with the aim of answering predetermined research questions (Kitchenham et al., 2007).

The steps in this study included 1) determining the research theme, namely how digital media can improve students' critical thinking skills in science learning; 2) searching and collecting articles from a number of sources such as Scopus, Web of Science, Sinta, and Google Scholar; 3) categorising the relevant articles according to the predetermined theme; 4) synthesising the articles by marking the key information; and 5) compiling the writing based on the synthesis results. In this research, the analytical methodology applied is in-depth, mainly including descriptive analysis and more detailed evaluation (Eriyanto, 2013).

In this study, the journals used are journals that fulfil the following criteria:

1. Inclusion criteria (IC)
   a) The paper contains of the following terms in the title, abstract or keywords: ‘‘Digital literacy’’ or equivalent expressions; ‘‘Critical thinking’’ or equivalent expressions; ‘‘writing’’ or equivalent expressions; ‘‘Foreign Language’’ or equivalent expressions;
   b) Journal Article;
   c) The paper is written in English;
   d) The last five years

2. Exclusion Criteria (EC)
   a) The paper is not available;
   b) Study is not written in English;
   c) The paper does not relate to the key words;
   d) The paper does not consider teaching/learning of a foreign/second/other language;

The data search process begins with determining the digital library or data source. The right data source should be selected to increase the likelihood of finding relevant articles. Popular databases have a broad perspective and coverage of literature and have good credibility. For this reason, in this research, the digital databases used to find data sources are: Eric and Tandfoline. These databases are recognised as significant reliable sources of high-quality publications from Computer Science and Engineering areas. We started with a simple string representing the four main aspects of this SLR, “digital literacy” AND “critical thinking” AND “writing” AND “foreign language”.

The Journals that fit the inclusion criteria were then collected and summarised the journal including the name of the researcher, the year of publication, the purpose of the research, and a summary of the results or findings. To further clarify the analysis, the abstract and full text of the journal were read and examined. The journal summary was then analysed for content contained in the research objectives and results/findings. The analysis used used journal content analysis. The data that has been collected is then looked for links to the problems studied and important results for the author and then discussed to draw conclusions.

FINDINGS AND DISCUSSIONS

A. Study Selection

In the first phase, 8498 records were identified in the databases mentioned earlier. In a second phase, 8438 records were exclude based on article types, five years, written in English, full paper, education, educational technology, technological literacy, and higher education, and left 60 articles. Then there are 47 articles were exclude based on titles, keywords and abstract analysis, and remaining 13 articles eligible for an analysis. Later, 7 records were excluded based on an analysis of full-text accessible, leaving a total of 6 full-text papers for examination in more detail. Finally, a thorough search was performed across various search engines, along with a review of citations from the chosen articles that had not appeared in the first search results. This phase included utilizing Google Scholar and various online databases to confirm the existence of pertinent studies related to this systematic review. Following this procedure, the total count of full-text articles amounted to 11.

Figure 1 displays a diagram illustrating the findings achieved at every step.

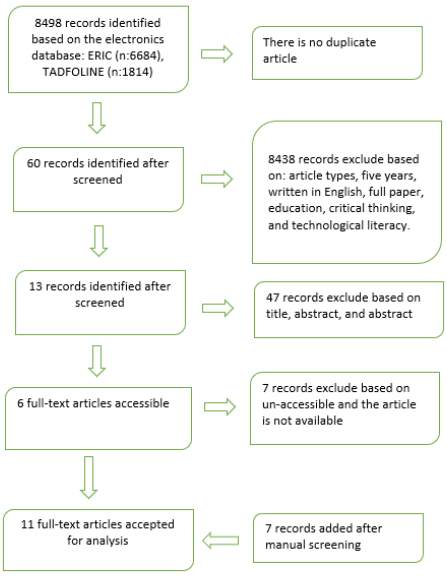

Figure 1.

B. The development of annual publications on the theme of digital literacy in improving critical thinking skills in 2020-2024

The development of the publication of articles on the theme of digital literacy in improving critical thinking in students has fluctuated. In 2020, there were 3 journals about digital literacy in improving students' critical thinking skills. in the following year, namely 2021, it decreased with only 2 similar journals published. This number further decreased in the following year, because there was only 1 journal about digital literacy in improving students' critical thinking skills, in 2022. However, in the following year, the Journal on digital literacy in improving students' critical thinking skills experienced a significant increase, because there were 5 similar journals that were published. This is the highest number in the last 5 years.

C. Most frequently researched research topics on digital literacy in improving students' critical thinking skills in 2020-2024

Based on the review of a number of documents that have been selected, it was found that the research themes relevant to critical thinking through the discovery learning approach. First, an article written by Jakkaphatto & Dhammapissamai in 2022 involving 122 participants, namely 107 students and 15 teachers at Mahamakut Buddhist University. Researchers applied experimental methods. The results showed that An Online Programme to Empower Teachers Learning to Develop Students' Critical Thinking Skills has been developed in accordance with the criteria. Moreover, the innovation will be utilised at the Faculty of Education at the main campus of Mahamakut Buddhist University.

Second, research written by Shaye Al-Shaye in 2021 involving 103 students at Kuwait University. This study adopted a quasi-experimental approach with a non-equivalent control group design. She divided the participants into two groups: an experimental group consisting of 45 students who were taught using digital online, and a control group consisting of 58 students who were taught using the traditional lecture

approach. All students had taken the Elementary and Intermediate Reading Skills course during the lecture period. As a result, she showed that two independent samples t-test revealed that critical reading skills, critical thinking skills, and self-regulation skills improved significantly compared to the control group.

Third, an article written by Siti Patonah in 2021 involved 73 students from Universitas PGRI Semarang. The researcher divided the participants into two groups: forty-three students (Experiment Class) and thirty-three students (Control Class). The results showed that the STLC model was significantly effective in empowering critical thinking skills.

The current research presents a comprehensive view of the previous literature, to further explore the results of the effectiveness test of improving critical thinking skills through digital literacy. The application of this learning model as a way to improve students' critical thinking skills has proven to be effective. The results of the analysis of 11 articles about that digital literacy in enhancing students' critical thinking skills can be seen in table below.

NO	Authors	The Results
1	Kamakshi Rajagopal and friends (2020)	The conceptual crossing of VM and OE as new educational strands has brought to the fore a number of generic learner skills and competences as a distinct set of skills and competences that Open VM supports. These competences represent generic competences coined as 21st-century learner skills (Trilling and Fadel 2009; Voogt and Pareja Roblin 2010) and combine aspects of the three disruptive drivers in the current HE landscape: digitalisation, collaboration and openness, to varying degrees.
2	Victoria joseph and Najmonnisa Khan (2020)	Digital literacy tools are of the blessing to the developing countries like Pakistan, where advancement is constantly happening. DLT such as computer, laptops, tablets, smartphones, multimedia and e-books can be used for teaching English reading and writing. It is stated that if the schools have technological facilities, then it should be used by the educators to bring positive progress in the teaching-learning process. DLT certainly aides in collaboration, critical thinking, creativity and communication.
3	Oktariani & Evri Ekadiansyah (2020)	Literacy can be a culture that is instilled from an early age so as to produce students who are able to think critically, that is, students who understand, cross, use, analyse and transform existing information.
4	Shaye Al-Shaye (2021)	The results of two independent sample t-test revealed that the critical reading skills, critical thinking skills, and self-regulated skills improved significantly in comparison to the control group.
5	Siti Patonah, Cari, Sajidan and Sentot Budi Rahardjo (2021)	The results showed that the STLC model was practical or workable as indicated by the lecturer and students' activities classified into both good and very good categories. The STLC model was significantly effective in empowering critical thinking skills.
6	Jakkaphatto, P., & Dhammapissamai, P. (2022)	As a result, the effective innovation of "An Online Program to Empower Teachers' Learning to Develop Students' Critical Thinking Skills" has been developed in accordance with the criteria. Moreover, the innovation will be utilized at the Faculty of Education at the main campus of Mahamakut Buddhist University.
7	Reza Rachmadtullah et al. (2023)	The independent t-test results showed that H0 was rejected and Ha was accepted. These results showed a significant difference in the average critical thinking skills between the control and experimental groups.
8	Riries Ernie Cynthia & Hotmaulina Sihotang (2023)	Digital literacy is essential to improve learners' critical thinking and problem-solving skills in the complex digital era. Digital literacy is not only mastering technology, but also requires creativity, collaborative skills and the ability to adapt to rapid change. The importance of digital literacy in facing global challenges is increasingly clear, and it is crucial for students to be prepared for the ever-changing digital environment. By learning digital etiquette, critical thinking and problem-solving skills, learners can contribute to change.
9	Mela Darmayanti et al (2023)	The results showed that the discovery learning model was effective in improving critical thinking skills because the steps of the discovery learning model were successfully applied in addition to the students having an impulse that arose within themselves.
10	Amelia Putri Wulandari et al (2023)	The results obtained are the use of learning media is very effective and efficient in its use, depending on what learning media is used and the selection of learning media in accordance with the provisions of social studies material being taught adds to the usefulness of the use of learning media.
11	Elsa Wahyuni and Yanti Fitria (2023)	The research findings show that innovative digital media can improve students' thinking skills in science learning in primary schools, such as videos, PowerPoint presentations, e-books, flipbooks, augmented reality, and educational websites, television, etc.

Based on the results of the review of the 11 articles above, the use of digital media can improve students critical thinking skills because the media used is more varied and interesting, so that it sparks students' interest in participating more actively and thinking critically compared to just listening to the teacher's explanation. An increase in critical thinking skills through this model can be seen when students are actively able to develop several skills such as interpreting by doing activities according to instructions, analysing by finding similarities and differences and then being able to evaluate them (Yuliati & Susianna, 2023).

Based on the review of several selected documents, it was revealed that teachers have a role in improving critical thinking skills through the discovery learning method. First, the teacher functions as an enabler, for example by inviting students to be actively involved in class discussions, providing support, and creating a positive and fun learning atmosphere (Khofiyah et al., 2019). Teachers also need to encourage students to have confidence and creativity when

participating in class discussions (Mukhlishah, 2022).

Second, students experience real learning through the discussion process, so the teacher's role is to guide students in connecting the information they find themselves in order to reach a conclusion (Susanti, 2018). When assisting students in linking information, teachers can use real situations to support students in linking information with their experiences.

Third, teachers are responsible for providing overall support to students regarding the knowledge they have gained (Sa'diyah & Dwikurnaningsih, 2019). Support that can be provided by teachers includes giving praise, delivering additional material according to students‘s level of understanding, applying methods that suit various learning styles, utilising technology, and presenting challenging tasks or projects according to students’ abilities.

From the description above, it can be concluded that the main role of the teacher in improving critical thinking skills through the digital literacy learning model includes the teacher acting as a motivator, inviting students to think comprehensively, connecting facts that students encounter themselves, and providing reinforcement.

CONCLUSIONS

The conclusion of this study is that students' critical thinking skills can be improved through a model of using digital media in the learning process. Based on various annual publications and 11 selected articles, there are several experiments that show that digital literacy plays a role in improving students' critical thinking skills. The data presented shows that digital literacy has a positive influence to improve critical thinking skills efficiently, so it should be used in the learning process of students. In the application of this learning model, the teacher functions as a motivator who provides support and encourages students to actively participate and think thoroughly while being able to relate the facts found by the students.

As a recommendation for future research, it is suggested to focus on one of the digital media and use more specific and detailed variables. To support next researchs, it is important to build partnerships between researchers, educators, and related parties to optimize the research results to make them more useful for curriculum development and teaching methods of educational institutions. In this way, this research can make a greater positive contribution towards improving the quality of education.

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