

A Systematic Literature Review: The Role of Character-Based Digital Literacy in 21ST Century Learning in Elementary Schools

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Received: August 1, 2023
Revised: September 3, 2023
Accepted: October 25, 2023
Published: October 31, 2023

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DOI: [10.29303/jppipa.v9i10.4858](https://doi.org/10.29303/jppipa.v9i10.4858)

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Abstract: Education in the 21st century has experienced various changes in various lines of life, such as the rapid progress of science and technology that can be used to meet educational needs. 21st-century education directs students to improve different skills and shape the morale and character of students through the use of the role of digital literacy in education. This study aims to systematically examine the scope of research in digital literacy, character, and the 21st century using the PRISMA (Preferred Items for Systematic Reviews and Meta-Analysis) design, which consists of three steps: identification, screening, and inclusion. The number of articles found was 472 from 2016 to 2022. This study reviewed 25 items based on three systematic literature review analysis steps. This research concludes that digital literacy is essential in strengthening students' character. The application of digital literacy is expected to support 21st-century skills, including critical thinking, communication, collaboration, and creativity.

Keywords: Character building; Digital literacy; 21st- century

Introduction

The rapid development of information and technology has affected everything in human life (Nikou & Reuver, 2022), which provides challenges and opportunities, including in the world of education (Rouf, 2019). Education has undergone various changes in various parts of the world (Chauhan, 2017), such as advances in science and technology that are used to meet educational needs (Sailer et al., 2021). Educational institutions have responded to applying digital literacy practices in the classroom in 21st-century learning (Suwanto et al., 2022). According to Özdemir & Hekim (2018), technology tools are the right resource for educational programs, with innovative program success and more significant potential for student learning advancement. Various kinds of learning resources and digital learning media can be used freely on educational sites (Astutik et al., 2021), which helps increase the

effectiveness of learning (Warden et al., 2022). Educators must develop competencies to maximize 21st-century learning (Suwarjo et al., 2022).

Education in the 21st century can improve various skills of students, such as innovating, using technology and information, and having life skills (Laksana, 2021). 21st-century learning demands skills including seeking and evaluating information, solving problems, exchanging information, and developing ideas in digital contexts (Laar et al., 2017). This development demands more attention to students' competencies to participate actively and effectively in learning (Zubaidah, 2016). In connection with the demands of 21st-century learning, one of the solutions needed is to encourage increased digital literacy of students (Urip & Riwanto, 2020); as stated by Rizaldi et al. (2020) that the focus of 21st-century education is directed at building digital literacy of students. This opinion was corroborated by Yohana

How to Cite:

Utaminingsih, E. S., Puspita, M. A., Ihsandi, A., Intania, B. Y., Prasetya, A. T., & Ellianawati, E. (2023). A Systematic Literature Review: The Role of Character-Based Digital Literacy in 21st Century Learning in Elementary Schools. *Jurnal Penelitian Pendidikan IPA*, 9(10), 829-840. <https://doi.org/10.29303/jppipa.v9i10.4858>

(2020); digital literacy is a skill that students in 21st-century learning must master.

Hsu et al. (2019) explained that digital literacy is utilizing technology and information from digital devices effectively and efficiently for various uses, such as academic, career, and daily activities. Digital literacy can also be interpreted as applying functional skills in utilizing digital devices to find and select information, think critically and creatively, collaborate, and communicate effectively (Purwanti et al., 2022). Digital literacy affects student psychology, motivates learner learning achievements (Akhyar et al., 2021), and enables students to process and filter information critically (Haryanto et al., 2022) and become more skilled in selecting references (Mitchell & Turner, 2018).

The impact of technological sophistication does have not only positive benefits but also negative impacts (Kumala et al., 2021). The adverse effects of using technology are marked by bullying on social media, which indicates a decline in student character values (Pentianasari et al., 2021). The decline in student character values becomes a conflict and a problem that must be addressed immediately in education (Triyanto, 2020). Strengthening character education in the digital era is essential in response to the many events that indicate a moral crisis for students (Alfiah et al., 2021). This is reinforced by Laksana (2021), who states that the negative impact of technological advances makes students lazy, antisocial, and introverted individuals, decreasing moral values and character. Based on the phenomenon, technology should be accompanied by the development of digital literacy competencies (Suardi et al., 2022) because digital literacy competence is not only able to direct to critically filter the information obtained but also to teach how to be digitally ethical (Dewi et al., 2021). This is in line with (Surianti & Hadi; 2022). Digital literacy is essential in strengthening students' morale and character in the digital era, so it is hoped that the world of education will begin to create formulas for special treatment for student character through digital literacy skills. Based on the description above, the purpose of writing this article is to present a systematic review of the role of character-based digital literacy in dealing with 21st-century learning.

Method

This study systematically examines the scope of research in digital literacy, the 21st century, and character. This article was conducted by utilizing modification procedures adopted from the design PRISMA (*Preferred Items for Systematic Reviews and Meta-Analysis*), carried out in three systematic steps, starting with the identification process, then proceeding with the

screening process, and inclusion (Page et al., 2021). The number of articles found was 472 from the year published 2016 to 2022. Based on the three systematic steps in analyzing the literature review, 25 articles were selected that were suitable for use as references in the article review. The research procedure process in this study is shown in Figure 1.

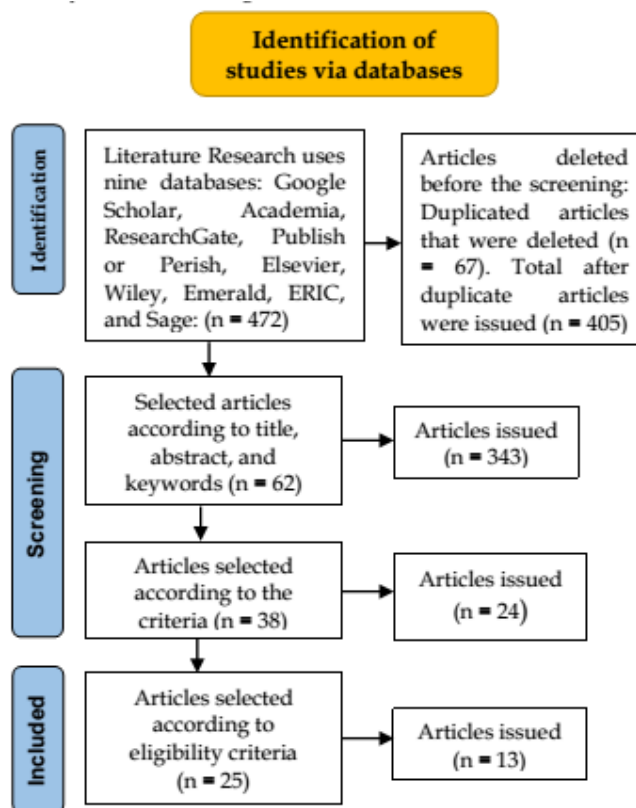


Figure 1. Research procedure flowchart

In the first stage, identification and article searches are carried out through several electronic databases: Google Scholar, Academia, ResearchGate, Publish or Perish, Elsevier, Wiley, Emerald, ERIC, and Sage. A comprehensive search yielded 412 articles from several keywords entered, namely "21st-century digital literacy", "character-laden digital literacy in 21st-century learning", "digital literacy in elementary school," "digital literacy and character strengthening," and "student character in the 21st century", then write down keywords that have equivalent words with the digital era, namely "technology in the 21st century." The following keywords are "digital literacy and 21st century", "digital literacy and character," "student 21st century", "character in 21st century", "digital literacy in elementary," and "digital literacy primary school."

The retrieved articles are limited from the year published 2016 to 2022. When keywords are entered, multiple articles will appear up to hundreds of articles, and reports will be identified with a publication limit.

Then, articles outside the year of publication will be discarded. In addition to article publication limitations, themes are identified by title, abstract, keywords, and topics. Topics relevant to this research are listed, while issues that are not appropriate are omitted. At this stage, the articles obtained are still general and will be selected again later. Before entering the screening, all articles that have been downloaded are entered into the "Fast Duplicate File" application to choose the same file. There are 67 duplicate files from a total of 472 files included. The selected article is 405 and will enter the screening stage.

The next stage is screening; all articles identified based on keywords, titles, and relevant abstracts will be downloaded. Articles are selected based on the completeness of the article's contents to get eligibility for whether they can be used or discarded. Full-text articles were scanned to check topic suitability for research purposes. Papers of the types 'editor,' 'response,' 'comment,' 'book review,' and 'book chapter' will be removed from the analysis. The number of selected articles is 62 articles. Articles whose research subjects are not elementary school students are excluded. Subsequent article eligibility screening is based on year. The selected papers are from 2018 and 2022.

In the third step, all selected articles that have been filtered and declared eligible will be put into the same folder based on keywords. After getting reports declared worthy of analysis and study for conclusions, the next step is to enter all the necessary information from all articles that meet the requirements into the table as metadata. The table contains data from the article, such as the author's name, year, method used, and findings in

the study. All articles that meet the requirements are studied and analyzed for synthesis or conclusion.

In the Analysis stage, there are several activities, such as recording authors' names, to find out the authors who contributed to writing articles on the topics discussed. The year of publication is also registered to determine when the research was published until it became a trend. The research method was analyzed to find out the distribution of the methods used by the authors in researching the topics discussed. Then, from the techniques used, the results are compared with the methods used by other authors. The research results are focused on the facts found by the article's authors. Did the appropriate data be found, and in which article did the writer find things that could be used to achieve the research objectives? For example, if the best research method is found using qualitative research methods, then research will be conducted on that topic. The data will later be used as a literature review to examine the issues discussed.

Result and Discussion

Article search results in several databases spanning 2016–2022, of the 472 articles found, it was decided to review 25 selected article items divided into four topic groups. Some of these topics include three articles on digital literacy, character education, and the 21st century; 11 articles on digital literacy and character education topics; then nine articles on digital literacy and the 21st century; and finally, the topic of character education and the 21st century as many as two articles. The 25 article items that have been analyzed are presented in Table 1.

Table 1. Literature Review

Researcher	Methods	Findings
Digital Literacy, Character Education, and the 21st Century		
(Musa et al., 2022)	Descriptive qualitative. Data collection: observation, interview, and documentation.	Digital literacy helps form characters such as honest, creative, disciplined, and critical thinking according to 21st-century skills and prevents the negative impacts of technological developments.
(Yohana, 2020)	Qualitative. Literature review: relevant journal.	The habit of digital literacy can build character and understand the dimensions of digital literacy, so technological advances will not erode students and can compete internationally. Digital literacy is a high-order thinking skill and supports academic success. Students are expected to master the digital world in preparing for innovative education.
(Khasanah & Herina, 2020)	Descriptive-Qualitative: observation and interviews.	Build students' character by utilizing digital literacy by showing educational content displayed through a projector for 15 minutes at the beginning of learning. These activities can be carried out to increase student motivation in learning and develop students' critical thinking creativity following 21st-century education.
(Pentianasari et al., 2021)	Qualitative. Library Studies: analysis of journals, books	Digital learning media strengthens character education and supports students to think critically and wisely in obtaining information through thematic learning.
(Yuniarto & Yudha, 2021)	Qualitative. Literature study: analysis of books and scientific articles.	Digital literacy can strengthen the character of nationalism, independence, religiosity, integrity, and cooperation, which is a step towards facing the era of society 5.0.

Researcher	Methods	Findings
(Sauri et al., 2022)	Case study design: interviews, observation, documentation	The importance of strengthening digital literacy-based characters in the learning process includes learning planning, curriculum, vision and mission, educators, textbooks, lesson plans, and syllabus; implementation of the teaching and learning process; and learning evaluation, including formative and summative assessments using digital devices.
(Abdullah & Wicaksono, 2020)	Qualitative with literature study.	In 21st-century learning, instilling character using digital literacy is very important from the elementary school level. Efforts that schools can make are (1) conducive and effective classroom management, (2) implementing character-based digital literacy, (3) strengthening character values, and (4) understanding self-concept.
(Dewi et al., 2021)	A qualitative approach with literature study.	The results of this study indicate that digital literacy is very effective in growing student character because students are more interested in learning linked to technology such as YouTube and social media. Educators can use these platforms to instill student character values. Educators and parents need to supervise digital activities to avoid the negative impact of using digital literacy.
(Anjarwati et al., 2021)	Qualitative descriptive: Observations and interviews	Implementing digital literacy through the use of WhatsApp, Instagram, and Google Classroom, the habit of watching educational videos. The achievement of character education is responsible for assignments, independence in digital literacy without the assistance of educators, and honesty in carrying out assignments.
(Kusumaningrum & Hafida, 2021)	Quantitative. Questionnaire	It was concluded that there was a significant correlation between digital literacy skills and students' honest character, which is known from the magnitude of the influence of digital literacy on students' honest character, which is in the medium category. It is known that digital literacy skills are very high based on internet search indicators, knowledge assembly, content evaluation, and hypertextual navigation.
(Surianti & Hadi, 2022)	Qualitative. Literature review.	Learning technologies encourage students to explore information and reinforce 21st-century skills. Students must have the character needed to face the challenges of the 21st Century, which impact competence and physical, mental, and intellectual capacities. Students who can sort information have good character because they can be literate.
(Wahab et al., 2022)	Descriptive-qualitative. Literature review.	The results show that character education can be strengthened by understanding character values, understanding various concepts contained in students, and creating conducive classrooms.
(Susanto, 2021)	Qualitative. Interviews, observations, and documentation (virtual).	Digital media literacy implementation strategy: special literacy programs integrated with learning materials, provision of resources for learning, and improvement of literacy skills for educators and education staff. Digital literacy's benefits include avoiding deviant behavior, preventing intimidation, accessing harmful content, and preventing cybercrimes.
(Purwanti et al., 2022)	Descriptive-Qualitative. Interviews, questionnaires, observations	E-learning with Microsoft Teams can increase digital literacy, which is carried out with three aspects: digital literacy is a source of learning, learning media, and media of communication between students and teachers. They strengthen digital literacy through several components: learning skills, communication and collaboration, ICT literacy, career and identity management, scholarships, media literacy, and information literacy.
(Suprihati et al., 2022)	Descriptive-qualitative. Data collection: observation, questionnaire, and documentation.	The application of digital literacy in class VI SD is not fully optimized. Suppporting media that can integrate digital activities is necessary ties to train to master 21st-century critical, communicative, collaborative, and creative skills.
(Suprihati et al., 2022)	Qualitative. Literature Study: Analysis of relevant journals and books	Digital literacy competence is a factor in mastering 21st-century skills. Educators must improve pedagogical skills and science content knowledge to integrate them into learning so that students master 21st-century skills such as information, collaboration, and learning skills.
(Hsu et al., 2019)	Qualitative. Data collection: Interviews, observations, and assessment of AR artifacts	There has been a significant increase in several areas concerning students' digital literacy: communication and sharing, information management, collaboration, evaluation, creation, and problem-solving, which are expected skills in 21st-century learning. The field of digital literacy is

Researcher	Methods	Findings
		staying the same: ethics and responsibility. Face-to-face and online learning offer many ways to inculcate digital literacy.
(Urip & Riwanto, 2020)	Descriptive – Qualitative: Observations and interviews	The habit of digital literacy in schools can build the character of students. It is hoped that students will understand the dimensions of digital literacy and that teachers can develop digital literacy learning materials and methods to face 21st-century learning and not be eroded by technological developments.
(Fitriyani & Nugroho, 2022)	Case Study: Counseling on the importance of digital literacy	Utilization of digital literacy adapted to 21st Century learning. The benefits of utilizing digital literacy activities include increasing critical thinking skills in understanding information, increasing vocabulary, increasing verbal skills, increasing focus and concentration of students, increasing reading ability, composing sentences and writing information, and improving active participation of students. The role of educators and parents is needed to reduce the negative impact of using digital media.
(Ditaningsih et al., 2021)	Phenomenological study.	It can be seen that some students only use digital literacy to find information. Some students have carried out product-based learning processes from digital literacy. It can be seen that digital literacy can be used as an appropriate and effective learning medium in the Industrial Revolution 4.0 era. However, its use must be monitored and limited. Adequate facilities are needed, as supervision from parents and teachers to maximize the use of digital media to improve human resources.
(Masyhura & Ramadan, 2021)	Qualitative: Observation, Interview	The lack of maximum application of digital literacy at the elementary school level is because the learning process is still centered on educators, and digital utilization is limited to WhatsApp groups. The use of digital literacy is less echoed; as a result, students need help understanding the material. Another obstacle is the limited internet quota.
(Haryanto et al., 2022)	Quantitative. Questionnaire	There is a positive and significant relationship between digital literacy and the role of parents in improving students' critical thinking skills. STEM-based digital literacy can be utilized to develop students' problem-solving and critical thinking skills to form STEM-based digital literacy knowledge.
(Kumala et al., 2021)	Quantitative. Questionnaire	This research shows that elementary school students' digital literacy competency level in Malang City is sufficient levels. It can guide hypertext directions, evaluate the content, communicate findings, and collect knowledge. In the information search category, it gets a high score (research subjects can use the internet to find information); for other aspects, it gets a good category. The ability to process information is still sufficient. The research subjects need to develop their abilities in processing information from the internet because the ability to process information from the internet is needed to shape students' knowledge and character.
(Padmadewi et al., 2018)	Qualitative. Data collection: observation, interview	Character education is applied in the 21st-century learning process, which teaches students to think critically in problem-solving, communicate for collaboration, and creativity for innovation. That is the way to build literacy. Literary works are influential in character education. Students who produce good literary works also display good behavior, personality, and character.
(Angga et al., 2022)	Literature Study approach through various sources.	The family, school, and community environment influence students' character. Technological developments must be balanced with the ability to use technology wisely. Students are required to think critically and complexly and are expected to be active and creative in participating in class learning. Educators must create practical and enjoyable learning by applying a 21st-century skill-based learning model to build students' character and achieve learning objectives.

Based on reference sources obtained from the journal or article search activities and several research results that researchers have carried out, there are different results regarding the role of character-laden digital literacy in dealing with 21st-century learning. Technology encourages students to explore information and collaborate to strengthen 21st-century skills (Utaminingsih, Raharjo, et al., 2023). The competency that must be mastered is digital literacy skills that strengthen students' character values and mental and intellectual capacities. It requires students to prepare to face the challenges of the 21st Century (Sarwi et al., 2019).

The research results by Surianti & Hadi (2022) show that students must have a solid character to solve 21st-century challenges, impacting their competence and mental, physical, and intellectual capacities. Students with good digital literacy skills can sort information from various sources and have good character (Haryani et al., 2017). This means that character-building by utilizing digital literacy is essential in elementary schools (Abdullah & Wicaksono, 2020). According to Musa et al. (2022), digital literacy aims to form four student characters: honest, disciplined, creative, and critical thinking (Candra et al., 2019). These four characteristics are essential to be instilled in students from the elementary school level because technological developments are currently very rapid, and information is elementary to obtain, so character formation from an early age can prevent the adverse effects of technological developments (Angga et al., 2022). In addition to these four characteristics, in its application, digital literacy can also fortify the five main characteristics in students, namely independence, nationalism, integrity, religiosity, and cooperation, which can be grown successfully and methodically. Those characters are skills expected in 21st-century education (Ellianawati et al., 2020). This finding is reinforced by Khasanah & Herina (2020), who state that the purpose of digital literacy is to build the character of 21st-century students in elementary schools and is a high-order thinking skill support in developing academic success.

Pentianasari et al. (2021) also said that strengthening character education in elementary school children can utilize technology-based learning media through digital literacy skills, which are used to facilitate, support, and motivate students in teaching and learning activities. So, they can think critically and wisely in obtaining information by learning the skills expected in 21st-century education (Pangrazio et al., 2020). This is in the results of research conducted by Yohana (2020) that using digital literacy in the school environment is an effort to build students' character and understand the dimensions of digital literacy. It is hoped that students will not be eroded by the flow of

technological advances (Leaning, 2019) and can compete internationally because digital literacy is a competency that students must master in higher-order thinking to achieve academic success (Urip & Riwanto, 2020). There are several benefits of utilizing digital literacy activities, such as increasing critical thinking skills in understanding information, increasing vocabulary, increasing verbal skills, increasing focus and concentration of students, increasing reading skills, composing sentences, and writing information. Students are expected to be able to master the digital world in preparing for innovative education (Fitriyani & Nugroho, 2022).

According to Rizaldi et al. (2020), digital literacy skills are a supporting factor in the formation of 21st-century skills which should have been introduced in schools since the elementary school level because students tend to be more interested in things that are technological, such as YouTube and social media; so this can be used as an innovation for educators to distribute the development of character values. Of course, with supervision from educators with restrictions on digital ethics, students avoid negative impacts (Dewi et al., 2021). Another benefit of digital literacy is that it can avoid deviant behavior, such as preventing intimidation, avoiding access to harmful content, and intercepting cybercrimes (Susanto, 2021). The achievement of character education through the implementation of digital literacy can be seen when students can be responsible and honest in carrying out assignments given through digital devices (Santi et al., 2022), as well as the independence of students who are committed to continuing to participate in learning even though not always in the assistance of educators (Anjarwati et al., 2021).

Suprihati et al. (2022) said that digital literacy-based thematic learning modules are needed to integrate digital activities into the learning process. The application of digital literacy in elementary schools through digital literacy-based thematic learning modules is expected to support 21st-century skills, including (1) students can think critically in solving learning problems; (2) students can understand what is learned and be trained to produce creative ideas and communicate these ideas in the learning process; (3) students can collaborate with other students sharing knowledge, information, and experiences through digital media; (4) students are more creative in completing quality assignments. This study describes the implementation of digital literacy in thematic learning modules, such as (1) integrating digital literacy during syllabus analysis to describe learning indicators in the literacy module and (2) integrating digital literacy to formulate learning objectives. Making assignments of

aspects of knowledge or skills and making application of competency test questions on Google form, (3) Integrating digital literacy-based activities to develop thematic learning materials and making summaries of information on the internet, (4) Setting digital literacy-based activities as tasks at the end of learning activities and competency test questions at the end of each sub-theme. Video, audio, or animation assignments are adjusted to the objectives at the end of learning activities. Competency test questions can be accessed via the Google form with the link address contained in the module. (5) students carry out digital literacy activities to work on assignment questions for aspects of knowledge or skills and make applications for competency test questions on Google Forms; (6) Form groups to assign assignments, communicate, and display student work online. This was also conveyed by Pentianasari et al. (2021) and Yohana (2020) in their research results.

STEM-based digital literacy is a learning approach that can be utilized in developing students' abilities to think critically in problem-solving (Utaminingsih, Ellianawati, Sumartiningsih, et al., 2023) so that STEM-based digital literacy knowledge is formed (Haryanto et al., 2022). STEM learning with multidisciplinary mastery needs to be optimized in schools (Sudarmin et al., 2023) so that the expected learning objectives align with the demands of the 21st Century (Rizaldi et al., 2020).

The findings of Kumala et al. (2021) show that the digital literacy competency level is sufficient in the information retrieval aspect of 3.28, guiding hypertext directions, evaluating the content, gathering knowledge, and communicating findings. In the information search category, it gets a high score (research subjects have been able to find information from the internet); for other aspects, it gets a good category. Because students' ability to process information is still at a sufficient level, students need to develop the ability to process information from the internet. Processing information from the internet is necessary to shape students' knowledge in sorting out the information obtained. Students need to learn how to collect knowledge and information from sources obtained to form new knowledge.

On the contrary, the results of research conducted by Masyhura & Ramadan (2021) show that the utilization of digital literacy in learning in elementary schools still needs to be improved. This can be seen from the learning process, which is still teacher-centered and generally uses the WhatsApp digital group media, even though the educator's digital literacy competence has an effect of 33% on the results of digital literacy competence and student character (Akib et al., 2022). This should be an awareness for educators to improve digital literacy

competencies so that educators have good digital literacy competencies in using technology tools (Dressen, 2021). Digital media design innovative, creative, and fun learning processes, making students think critically (Hutagalung & Halimatussakdiah, 2019). Apart from students, digital literacy skills must also be mastered by educators to maximize the development of digital media as a learning media that can improve students' skills (Utaminingsih, Ellianawati, Widiarti, et al., 2023). Educators are also expected to know the use of information technology and understand the information in accessing learning resources that utilize digital literacy in designing media and learning resources used during learning (Suwarjo et al., 2022).

Reviewing the benefits of digital literacy for strengthening character (Sauri et al., 2022), this is, of course, used as a reference by educators to create effective and fun learning in the classroom so that they can build students' character (Angga et al., 2022) according to the skills required expected in 21st-century education. Through a fun learning process, it will be easier for students to grasp the material presented in the learning process (Utaminingsih, Sulasih, et al., 2023). The findings of Padmadewi et al. (2018) show that literary works effectively build character. Students who produce good literary works have good behavior, personality, and character. This, of course, can be collaborated in learning and integrated through digital learning media.

Research conducted by Hsu et al. (2019) explained that learning methods to improve students' digital literacy competencies were developed through contextual and interactive augmented reality (AR)-based media for elementary school students. The results of the study showed a significant increase in several students' digital literacy skills: communication and sharing, collaboration, creation, evaluation, information management, and problem-solving, which are skills expected in 21st-century learning. In addition to using AR-based media, research conducted by Purwanti & Putra (2019) found that e-learning carried out using the Microsoft Teams application is proven to be able to improve the digital literacy skills of fifth-grade elementary school students which are carried out in three aspects and have been appropriately implemented. Digital literacy is used as learning content, media, and communication medium for educators and students. Digital literacy skills can also be improved by applying digital literacy proposed by Beetham, Littlejohn, and McGill, which consists of seven main components: career and identity management, information literacy, communication and collaboration, ICT literacy, digital scholarship, media literacy, and study skills.

The research instruments used in the several studies above are varied. Some studies use literature review, and other research uses observation, documentation, and questionnaires. The following are some of the instruments used by researchers which can be used as references for further research. Research conducted by Haryanto et al. (2022) used a questionnaire instrument to measure students' digital literacy. Researchers conducted research by measuring indicators, which included information literacy, students' abilities to find, use, and evaluate digital scholarship information as a reference for learning skills, and students' abilities to use various technological devices in learning. Students' knowledge of ICT includes how to operate it. Students' active participation during learning, media literacy, and ability to find reliable information by comparing the information they get. Another research that includes indicators in its research instrument is the research conducted by Kusumaningrum & Hafida (2021), which consists of several indicators such as searching for information on the internet, hypertext, evaluating the content, compiling knowledge, and compiling findings. Based on the description above, digital literacy is essential in strengthening character and is a competency that must be possessed in 21st-century education.

Conclusion

Digital literacy has and provides an essential role in strengthening students' character. After systematically reviewing several journals related to the scope of research in digital literacy, character, and the 21st century, it can be seen that the application of digital literacy can support 21st-century skills, including 1) critical, through various information obtained from the internet, students can think critically in solving learning problems, 2) communication, students can understand what is learned and trained to produce creative ideas and communicate these ideas in the learning process, 3) collaborate, students can collaborate with other students in sharing knowledge, information, and experience through digital media, 4) creative, students are more creative in completing assignments to produce quality work. Educators are expected to be able to improve their skills in utilizing digital literacy in learning activities in class. In its use, teachers and parents must supervise all student activities in the use of digital literacy so that they can avoid the adverse effects of using digital literacy.

Acknowledgments

The researcher would like to thank Mr. Agung Tri Prasetya, Mrs. Ellianawati, and Mrs. Sri Sumartiningsih for guiding the research and writing of this article. The author is also grateful

for the solid teamwork so that the writing of this article can be completed.

Author Contribution

The principal author, Esty Setyo Utaminingsih, contributed to designing research, conducting research, collecting data, curating data, writing original drafts, writing reviews, and editing. The second author, Maria Ayu Puspita, contributed to collecting data, curation data, and writing reviews; Aldi Ihsandi contributed to curation data, writing original drafts, and editing; Belita Yoan Intania contributed to writing reviews and editing. Agung Tri Prasetya guided the research, conducted the study, and wrote the review and editing. The next author, Ellianawati played a role in writing the review. All authors have read and agreed to the published version of the manuscript.

Funding

This research received no external funding.

Conflicts of Interest

The authors declare no conflict of interest.

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