

The Urgency of the Google Sites as Biology Learning Media Based on Digital Literacy

Submitted 18 June 2024 Revised 30 June 2024 Accepted 30 June 2024

Anas Lutfi¹, Indah Juwita Sari², Jun S. Camara³

Department of Biology Education, Faculty of Teacher Training and Education,
Universitas Sultan Ageng Tirtayasa, Serang, Indonesia

³School of Advanced Studies, Pangasinan State University, Pangasinan, Philippines

Corresponding Email: *2224200013@untirta.ac.id

Abstract

The advancement of information technology encourages teachers to be able to maximize the use of technological advances with the aim of achieving the standards of the learning process in educational institutions. The purpose of this paper is to analyze the need for the use of learning media on the Google Sites website based on digital literacy in biology material. This research uses qualitative methods. Therefore, this research uses descriptive qualitative research to describe a phenomenon that occurs in the field. The sample in the study was 1 biology teacher at a senior high school in Pandeglang, Indonesia and 62 students of grade 11 and 12 at a senior high school in Pandeglang, Indonesia. The research was conducted in May 2023 at a senior high school in Pandeglang, Indonesia. In collecting data using techniques such as giving questionnaires to students, teacher interviews, and school observations. Analysis of data that has been obtained using stages consisting of data collection, data reduction, data presentation, and drawing conclusions. The results of this study found that 53.2% of students found it difficult to understand biology material due to lack of learning and learning media. So this needs analysis aims to find out the development of digital literacy-based google sites web learning media that will be developed as an alignment between the independent curriculum, learning variations, and digital literacy skills.

Keywords: Needs Analysis, Google Sites Technology, Digital Literacy, Biology

INTRODUCTION

Advances in information technology encourage teachers to be able to maximize the use of technological advances with the aim of achieving learning process standards in educational institutions. Utilizing modern technology in the teaching and learning process can be used to improve the quality of learning and students (Fitra & Maksum, 2021). The use of media as a learning tool supports the learning process and provides material in an attractive manner. Learning media is a form of device in achieving good learning objectives, learning activities can be said to be achieved and successful if the learning media used is in accordance with learning activities (Atsani, 2021).

Learning activities carried out by learning activities are not only in the form of blackboard media, but can also be through the development of websites that can be accessed through student devices. An example of the application of learning media that can be adapted to technological developments through the process of making educational materials is the google sites web. Google sites is an online network released by Google in developing websites related to dynamic software to be applied in schools (Taufik et al., 2018). Dynamic software is part of technology by creating opportunities for teachers to improve their skills in developing learning

media tools (Apriansyah, 2020). Learning with web google sites offers benefits for students and teachers. The advantages of web google sites include: google sites make it easy to store archives of learning activities from the beginning to the end of the meeting, so that students can repeat learning again, google sites illustrate with interesting and fun learning variations, the material contained on google sites can be downloaded, and the flexible learning process can be done anywhere and anytime, students who use can upload assignment results according to the collection feature, additional information during the learning process can also be submitted on the google sites web (Rosiyana, 2021).

Previous research by Hasan et al. (2022) on Learning Management System (LMS) learning media in increasing the capacity of teachers using google sites states that in developing learning media google sites are easy for educators to do so that they are useful as learning media. Next, the results of research by Hidayatillah et al. (2022), argues that the use of google sites-based media facilitates learning as a reference for learning media in schools that are efficient & effective in learning so that learning objectives can be achieved. Meanwhile, the results of Muflihun & Makhshun, (2020), regarding the role of teachers in improving digital literacy as 21st century skills, concluded that technological advances in education are still not aligned with students' digital literacy, so it is the teacher's job to realize it.

The Ministry of Education and Culture, in collaboration with the Ministry of Communication and Information Technology, is actively promoting digital literacy in the environment. the activity intends to create proficiency in applying data (internet) and technological tools properly. The digital literacy movement can be done with small things by involving students in the application of digital literacy in schools. Indonesia's digital literacy competence is said to be at the bottom. This is based on the Program for International Student Assessment 2015 (OECD, 2015). The country's literacy rate in all 72 is ranked 62nd with an average score of 397. The average literacy rate for 70 countries is 493.

Digital literacy competency is part of the competency base that can be specifically done during learning. The next section of activities consists of numeracy, science, reading and counting literacy, finance, as well as citizenship and culture. Digital literacy can be improved through digital learning (e-learning) (Pratama et al., 2019). a person is said to be digitally literate if they have competencies in internet search, hypertextual navigation, content evaluation, and knowledge assembly (Silalahi et al., 2022).

Digital literacy occupies an important position in today's educational needs. Digital literacy makes it easy for students to practice calistung (reading, writing, counting) as a preparation for students' education from an early age. The position of digital literacy in

education can support students to grow the potential of each learner. The emergence of digital literacy provides a view that there is no difference between information sources and information seekers, so that all sources of information can always be available. Digital literacy in education can advance learning for collaboration and skills in global competition (Silalahi et al., 2022).

Based on the background description and literature review above, the problem can be formulated that the importance of learning media developed to achieve learning objectives, therefore further research uses technology-based learning media by utilizing google sites as an application of students' digital literacy, in line with the independent curriculum regarding the concept of plant growth and development material, it is necessary to understand the concept of creating skills independently and being able to solve problems. Therefore, the purpose of this research is as an initial stage to analyze the need to use digital literacy-based google sites web learning media on plant growth and development material.

METHOD

The research conducted used qualitative research methods. Therefore, this research uses descriptive qualitative research, which is a research that has the aim of describing or describing a phenomenon that occurs (Sakiah & Effendi, 2021). The sample in the study was 1 biology teacher at a senior high school in Pandeglang, Indonesia and 62 students of grade 11 and 12 at a senior high school in Pandeglang, Indonesia (School A). The research was conducted in May 2023 at a senior high school in Pandeglang, Indonesia. In collecting data, researchers conducted techniques in the form of giving questionnaires to students, teacher interviews, and school observations. The focus of this research is to describe the need for the use of digital literacy-based google sites web learning media on plant growth and development material. The stages of the research carried out are described in Figure 1.

Then in the research to be carried out, in conducting an analysis of the data obtained, the researcher uses the Miles and Huberman model (Miles & Huberman, 1994), the stages of data analysis carried out are data collection, data reduction, data presentation, and drawing conclusions.

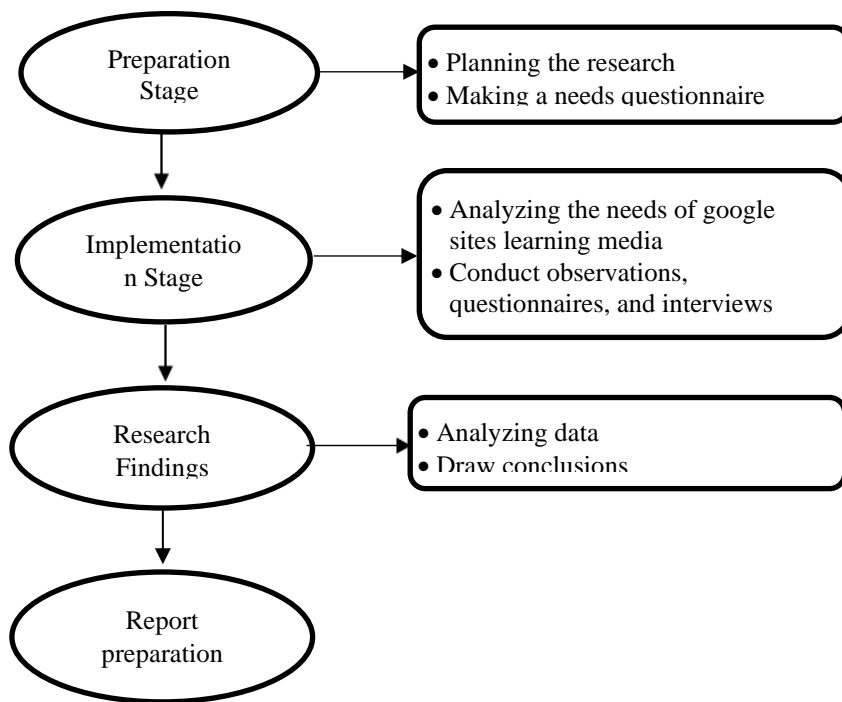


Figure 1. Descriptive Qualitative Research Stages
 (Source: Modified from Deviana (2018))

RESULTS AND DISCUSSION

Table 1. Analysis of Student Needs for Google Sites Media Development

No.	Question	Response	Percentage (%)
1	Students have smartphones	Yes	100
2	The smartphone is always carried	Yes	98,6
3	What is the smartphone used for	Learn	72,6
		Social media	67,7
		Browsing	59,7
		Games	61,3
4	Media commonly used by teachers in teaching	Powerpoint	85,5
		Poster	11,3
		Package book	51,6
		LKS	53,2
		Website	25,8
5	Are there any obstacles in using learning media	No	79
6	Learning media makes you fun in learning	Yes	98,4
7	Learning media makes it easier to understand the material	Yes	96,8
8	Students have been taught google sites media	No	100
9	The need for digital literacy-based google sites media that can be accessed by smartphones at anytime	Yes	95,2
10	The need for the use of google sites media based on digital literacy growth and development concepts	Yes	96,8

Based on the results of observations made at School A in Table 1. The subject of this research is the biology subject teacher of School A and 62 respondents of 11th and 12th grade students. Then some of the questions asked include indicators of curriculum analysis,

identification of learning problems, personal ownership, learning media, google sites learning media.

Analysis of Difficulty in Understanding Biology Material



Figure 1. Circle Diagram of the Results of Difficulty Analysis of Biological Material for Plant Growth and Development

Figure 1 shows the analysis of students' difficulties in understanding biology material on the concept of plant growth and development, there are several reasons among them, 53.20% of students answered that biology material was difficult to understand due to lack of use of learning media, 27.40% of students answered that biology material was less interactive, 19.40% of students answered that biology material was too complex and abstract.

Learning media is a tool used by teachers to convey teaching material to students so that the material reaches students properly. The use of learning media is also very influential on students, students can easily absorb the purpose and intent of the learning material, and get more real knowledge of curiosity more with the conditions when the lesson is carried out (Moto, 2019).

Learner Personal Ownership Analysis

Regarding the indicator of personal ownership, the results of the answers obtained in the questionnaire show that all students (100%) already have a personal handle either a cellphone or laptop that is used in daily activities, as many as 95.2% of 100% of students always bring the device to school, as for the purpose and purpose of using students' devices as a tool to support learning activities (72.6%), a tool to carry out social media playing activities (67.7%), used for gaming activities (61.3%), and used as a tool for browsing in learning (59.7%). Then as many as 77.4% of 100% of students answered, that the use of cellphones has become a necessity during daily activities including the learning process.

Analysis of Learning Media in Schools

Related to learning media indicators, most biology teachers in School A learning activities carried out in the classroom, usually teachers provide learning media and commonly used by students can be in the form of learning media with power points as much as 85.5%, student worksheets as much as 53.2%, learning modules or teaching materials as much as 51.6%, conducting learning activities in the form of providing media accessed via the internet as much as 25.8%, learning that uses posters during learning activities as much as 11.3%.

The importance of a variety of learning media is needed in the development of this era, learning media is also very influential on students, students are easier to understand the purpose and intent of learning material, students can also develop curiosity, and get more real knowledge with the conditions when the lesson is carried out (Moto, 2019). Based on research by Dwipayana et al., (2020) stated that learning media that involves students to interact and collaborate with each other can increase understanding of abstract material.

Learning Media Analysis of Google Sites Website Based on Digital Literacy

The needs analysis carried out certainly aims to determine the readiness of google sites media in learning with the results that no students have ever carried out learning activities using this media, especially in biology material regarding the concept of plant growth and development. A total of 95.2% of students answered agree if the development of learning media based on the google sites website that can be accessed through devices so that it can be accessed anytime and anywhere, and 96.8% of students agreed with the development of biology learning media on plant growth and development material to be developed.

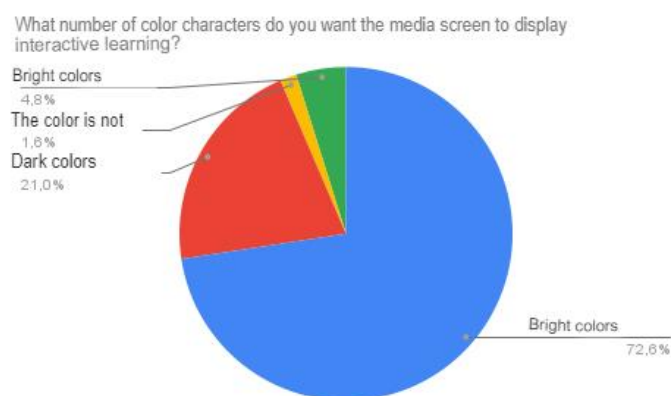


Figure 2. Average Google Sites Media Display Expected by Learners

Then students provide several options in the development of google sites media later in the form of bright color displays that do not clutter the display and provide student comfort (77.4%), dark color displays and do not clutter the display and provide student comfort (25.8%), and color displays that are not too bright and also not too dark (1.6%).

In this case, the needs analysis regarding the development of digital literacy-based google sites website learning media gets data from the questionnaire, before further stages are carried out. In Indonesia's current digital era, internet developments and computerized changes have a high influence on the learning process. One of these developments is the use of websites as a means for learning that provides sophisticated innovations to be able to help achieve goals in learning that can be accessed independently and individually (Simanjuntak, 2022).

The results of direct observation to School A that digital literacy is a necessity for teachers and students. This was conveyed by the teacher on the importance of digital literacy for the learning process. Digital literacy is part of a person's skills in the use of digital tools as a support to achieve goals in learning. The importance of digital literacy is currently as an access to learning that can be done easily, not much time is used, the costs incurred are not so great, and get a lot of new information (Fitriyani., & Mukhlis, 2021; Sumiati & Wijonarko, 2020).

Digital literacy applied to learning activities encourages learners to keep up with technological developments. Digital literacy motivates learners in completing tasks, increasing understanding and the ability to find information accurately, precisely and efficiently in digital content (Yusuf et al., 2022). Confidence in digital technology has been proven in practice, being able to apply digital tools by applying technology to teaching and learning activities is an obligation even after the pandemic is over (Basir et al., 2021). The application of digital literacy can make it easier for every learner to use technology and then use it more wisely in learning (Dewi et al., 2021).

CONCLUSION

Based on the results of research and discussion, it can be concluded that learning media has an important role in the world of education. So that the development of learning media for the google sites website that will be carried out needs to carry out a needs analysis before starting product manufacturing. The google sites website learning media that will be developed aims to harmonize the development of the current independent curriculum which requires students to be able to understand the use of technology and digital literacy skills and variations of pre-existing learning media.

SUGGESTIONS

Researchers suggest that the needs analysis of the use of digital literacy-based google sites learning media can be used as a reference in developing google sites website learning media according to the results of the needs analysis conducted. So that the resulting learning media can be used as a form of alignment regarding the use of technology in the current independent curriculum with digital literacy that needs to be improved today.

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