



Persepsi Mahasiswa Terhadap Pemanfaatan *Google Sites* pada Mata Kuliah Media Pembelajaran Kimia

(*The Perception by University Students of the Use Google Sites in The Chemistry Learning Media Course*)

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Received 27-01-26, Revised 03-02-26, Accepted 03-03-2026, Published 28-04-26

Keywords:

Learning Media;
Google Sites;
Perception of
University Students

ABSTRACT. This study aims to determine the perceptions of students as prospective teachers towards the use of Google Sites in chemistry learning media courses. This study used a descriptive approach with a survey method conducted with 2 lecturers and 15 fifth-semester chemistry education students. The instrument used was a questionnaire consisting of closed and open-ended questions. The results showed that all lecturers were familiar with Google Sites through seminars or workshops and only 27% of students were familiar with this media through social media. After conducting a trial of learning using Google Sites, all lecturers and students agreed to use this media as one of the media in chemistry learning at school. Some of its advantages are that Google Sites media is easy to access, free of charge and can be created by adding materials, videos, animations and so on according to learning needs. The conclusion obtained is that the use of Google Sites received positive responses from lecturers and students. Students reported positive impacts in terms of accessibility, visual appeal, and the integration of materials and assessments within a single platform. Google Sites is considered potential for implementation at the senior high school level as an alternative digital learning media.

INTRODUCTION

Teachers and students are the two components that are the focus of attention in the learning process at school. Both have their respective roles, which are interconnected and interdependent. Learning is conducted by teachers with the aim of improving morals and intellect, as well as developing various abilities in students, such as thinking, creativity, problem-solving, and constructing knowledge effectively [1]. These abilities are in line with the skills needed in the 21st century. The skills that students need to learn must be something that has benefits and in the process can be honed through practical activities, training or direct experience [2]. All of these skills are very much needed as a basis for students' abilities to be able to have a decent life in the future.

In the modern era, media and technology have become crucial factors influencing the transformation process in education. The integration of technology into learning has led to significant changes in the delivery and delivery of educational experiences, both by teachers and students [3]. Technology can provide a space or venue for teachers to create a new learning environment for students. The use of technology makes learning activities more engaging and interactive, and makes it easier for students to acquire knowledge [4]. Essentially, technology is merely a tool to streamline the learning process, while the teacher acts as a facilitator who can regulate the rhythm and dynamics of classroom activities. Teachers play a crucial role in determining learning objectives, selecting topics, identifying learning situations, selecting appropriate media, managing the learning process, and evaluating and adapting learning based on the evaluation results [5]. In addition, teachers also need to understand their curriculum in more depth before integrating technology, the availability of adequate facilities and infrastructure, and the level of teacher skills in using technology in learning [3].

Learning that involves the use of technology has become a necessity that is desired and desired by today's students [6]. One of the efforts to utilize technology in the learning process is to insert learning media in the classroom [7]. Learning media that is used appropriately can be a primary or supporting tool in the learning process so that learning objectives can be achieved efficiently and effectively [8]. In the learning process, teachers can freely use various types of media, but they need to choose the right media that is suitable for delivery in class [9].



Along with the development of technological advances, teachers are required to have the ability to design creative and innovative learning media [10]. The use of technology-based learning media can support students in understanding material concepts or concepts that they do not yet understand [11]. Interactive multimedia is a medium that allows for the combination of text, images, graphics, videos, animations, and simulations in an integrated and synergistic manner with the help of computers or similar devices so that students can actively interact within it [12]. Interactive multimedia also allows students to be more motivated and independent in learning [13].

Interactive multimedia in the form of websites can be a suitable alternative in the modern era. This is because website-based learning has become a popular learning approach with the rapid development of technology [14]. Providing media in the form of a website not only has the advantage of accessibility, but can also produce meaningful learning that is in line with the learning objectives to be achieved [10]. In addition, media in the form of websites can create a conducive learning environment for students and can increase student motivation in learning in addition to providing opportunities for teachers and students to manage and guide learning activities inside and outside the classroom [15]. However, the development of a learning website needs to consider aspects of the substance of the website, construction and appearance, and practical guidelines for website use, including aspects of ease of use [16]. This aims to ensure that the website can improve students' intelligence and skills [17].

Google Sites is a learning website that is easy to use because it only requires a cellphone and internet, no need to download the application, students or teachers can access it via Google [18]. The features available on Google Sites make it easy for users to build their own websites without having to have coding skills or mastery of coding languages [19]. Google Sites was chosen as interactive multimedia because its content can be tailored to teachers' needs in transferring materials, assignments, and assessments to students with a customizable display, making it more flexible [20].

The digital transformation in education means that students no longer rely on direct teacher delivery in the classroom for their learning. Google Sites, a website-based platform, will help students easily access learning tools from anywhere with an internet connection [21]. However, in practice, the Google Sites application has not been widely utilized by most teachers to develop it into a learning resource or tool, so there is still potential that has not been properly channeled [22].

The impact of various media provided by teachers needs to be assessed after their use through analysis of student responses. These responses will provide teachers with an overview of and assessment of the concepts and methods used in teaching and learning activities [23]. Student responses in teaching and learning activities can also describe how students think so that teachers will later be able to guide students to change their way of thinking to good and correct ways, if students make mistakes while learning [7]. Furthermore, students as future teachers are also required not only to have the skills to utilize technology in learning, but also to consider the needs and abilities of their students [24]. Based on the background and study, the researcher wants to know the perceptions of students as prospective teachers regarding the use of Google Sites in chemistry learning media courses.

RESEARCH METHOD

This research uses a descriptive approach with a survey method. Descriptive research aims to systematically describe phenomena, conditions, or respondents' perceptions of a research object based on data obtained from the field. The survey method is used to collect information regarding respondents' perceptions, experiences, and responses through instruments such as questionnaires [26]. Furthermore, a descriptive approach allows researchers to obtain a factual picture of a phenomenon without manipulating research variables [27].

The research subjects consisted of two Chemistry Education lecturers who teach chemistry learning media courses and 15 fifth-semester Chemistry Education Study Program students at Khairun University. This study was non-experimental in nature because it did not involve treatment of either the control or experimental groups, but rather simply described respondents' perceptions of the use of learning media.

The research instrument used was a questionnaire consisting of closed-ended and open-ended questions. The questionnaire was administered to students before and after implementing Google Sites-based learning media to determine their initial knowledge and perceptions after attending lectures using the media.

The research procedure was carried out through several stages, namely: 1) *the preparation stage*, which included designing Google Sites-based learning media and developing the research questionnaire instrument; 2) *the implementation stage*, which involved implementing Google Sites in chemistry learning media lectures; 3) *the data collection stage*, which involved distributing questionnaires to lecturers and students to obtain feedback on

the use of these learning media; and 4) *the data analysis stage*, which involved processing and interpreting the questionnaire data.

The research data was analyzed using quantitative and qualitative descriptive analysis techniques. Quantitative data obtained from closed-ended questions were analyzed using percentages to illustrate the tendency of respondents' responses to the use of Google Sites. Meanwhile, qualitative data obtained from open-ended questions were analyzed through data reduction, data presentation, and conclusion drawing to obtain a more in-depth picture of student and lecturer perceptions of this learning medium.

RESULTS AND DISCUSSION

This study used Google Sites as a learning tool in a chemistry learning media course. Furthermore, the researcher described the perceptions and responses of students and lecturers regarding the use of this tool. The following data is obtained from the responses of two lecturers and 15 students to Google Sites.

a. Lecturers' Responses to Google Sites Media

- 1) Have you ever heard about Google Sites?

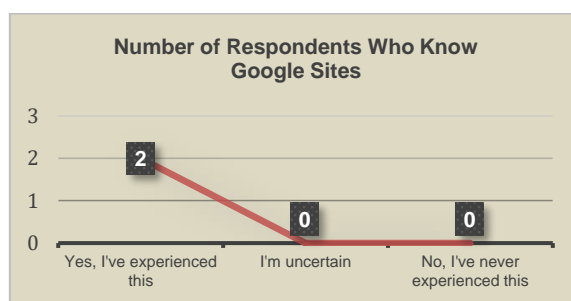


Figure 1. Answer to Question Number 1.

- 2) If so, where did you find out about Google Sites?

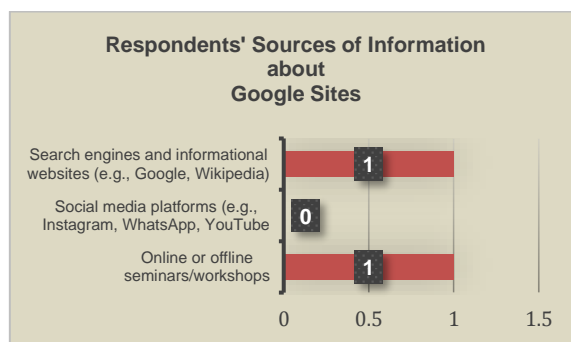


Figure 2. Answer to Question Number 2.

- 3) Based on the aspect of ease of access or use, what do you think about Google Sites media for chemistry learning media lectures?

Lecturer X "The design is feasible to implement, summarizing what students, in this case university students, need to know (from objectives to evaluation). It's also very easy to use. It can be accessed via smartphone or laptop. I believe it will be applicable not only to university students but also to junior high and high school students."

Lecturer Y: "From the aspect of convenience, the design of the Google sites created is relatively easy to access. Likewise for use, because clear menus have been provided such as class schedules, RPS, materials and so on."

- 4) Based on its attractiveness, what do you think about Google Sites media for chemistry learning media lectures?

Lecturer X: "Very interesting. This Google Sites will provide a new experience for students in deepening the material, because the material presented can be reviewed anywhere and anytime. The display is not monotonous, contextual because it is accompanied by videos that students can watch for themselves how the theory is applied and is based on technology which in this era, students tend to like that, so it will attract their interest in learning what is included in it."

Lecturer Y: "The Google Sites that have been created are already quite interesting, but they can still be further developed by adding several additional activities so that users can gain more insight and knowledge when surfing the page."

- 5) What impressions, criticisms and suggestions can you convey for the sustainability of the Google Sites media?

Lecturer X: "Google Sites presents a challenge in itself in creating similar media for other courses. I hope to be able to summarize more meetings in the future. It might be better to choose one of the evaluations and assignments, using virtual classes. This will help students avoid confusion about where to upload, and as a teacher, it will also be easier to summarize and assess, considering that virtual classes are already synchronized with the campus information system."

Lecturer Y: "My impression is that this media meets the criteria for use in learning. My suggestion is that it could be further enriched with engaging activities."

Based on the responses of the lecturers teaching this course, they were familiar with Google Sites through online/offline seminars or workshops and through search engines like Google, Wikipedia, and others. Both lecturers believed that this platform is easy to access and use in learning. This is due to the menus for viewing class schedules, lesson plans (RPS), materials, and learning evaluations, which will also benefit junior high and senior high school students. As educators, lecturers play a crucial role in providing effective learning experiences for students [27].

Another aspect that adds value to this medium is its appeal. The designed Google Sites media looks appealing because it can be customized to your liking, such as incorporating contextual images, videos of the material being studied, and so on. This is supported by research conducted by [28]. Google Sites offers a compelling platform that can make learning less boring and enhance student learning independence. However, it's considered necessary to develop additional activities to enhance user insight and knowledge, and to integrate it with virtual classes for assignment submissions and student evaluations.

b. Student Responses Before Using Google Sites Media

- 1) Have you ever used website-based learning media?

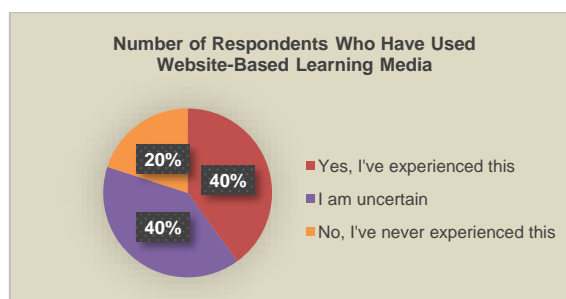


Figure 3. Answer to Question Number 1.

- 2) If so, what learning media have you used?

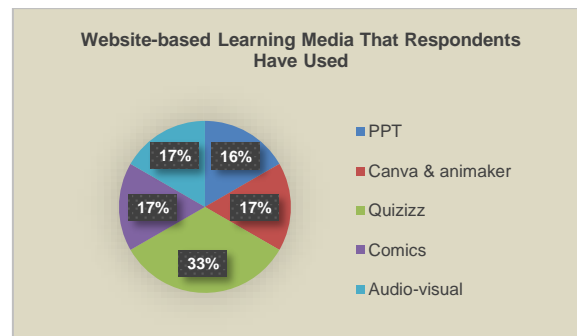


Figure 4. Answer to Question 2.

3) Have you ever created website-based learning media?

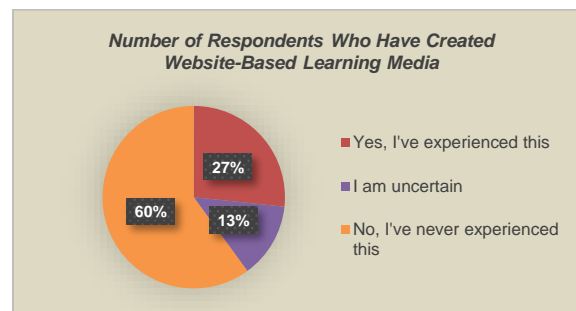


Figure 5. Answer to Question 3.

4) If so, what learning media have you created?

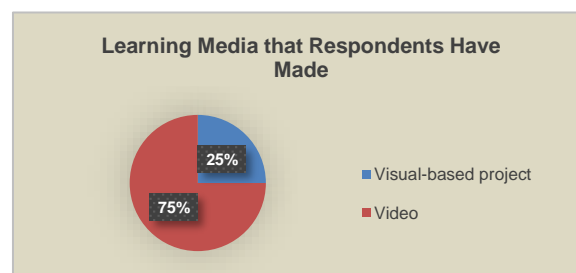


Figure 6. Answer to Question 4

5) Have you ever heard or known about Google Sites?

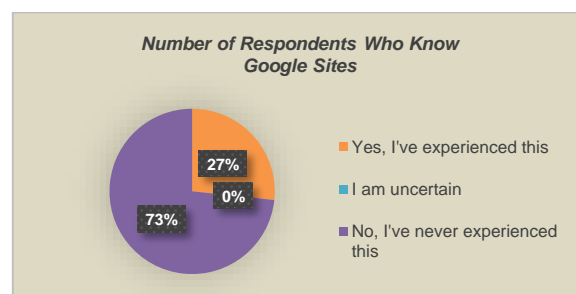


Figure 7. Answer to Question 5.

6) If so, how did you learn about Google Sites

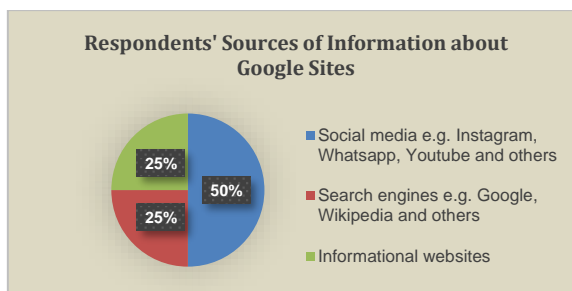


Figure 8. Answer to Question 6.

7) If you haven't already, are you interested in learning about Google Sites?

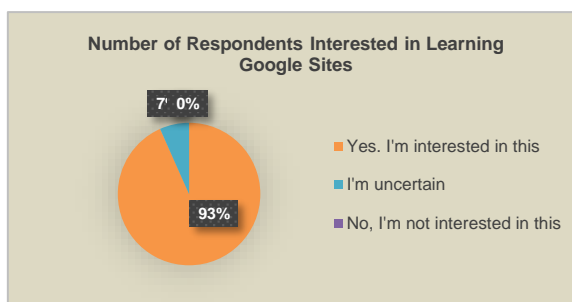


Figure 9. Answer to Question 7.

c. Student Response After Using Google Sites Media

1) In your opinion, does the use of Google Sites have a positive impact on attending chemistry learning media lectures?

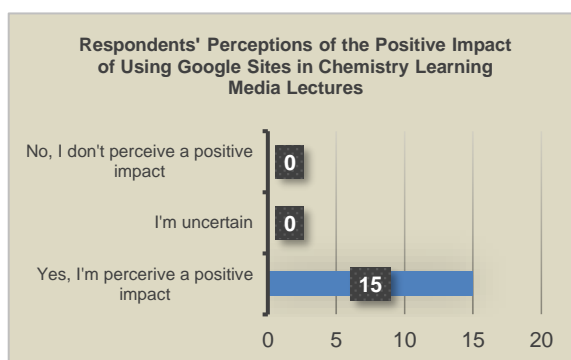


Figure 10. Answer to Question 1.

2) Write your reasons for your answer to question number 1.

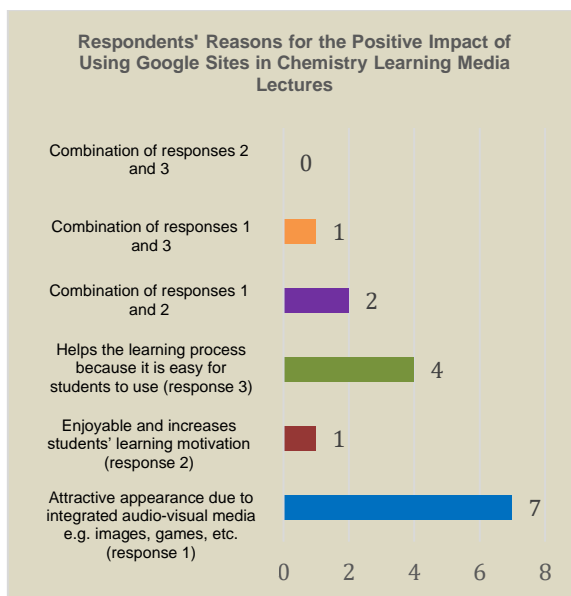


Figure 11. Answer to Question 2.

- 3) In your opinion, can Google Sites be used as a chemistry learning medium in high school/equivalent?

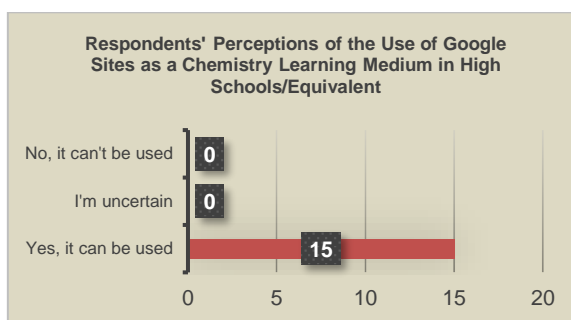


Figure 12. Answer to Question 3.

- 4) Write your reasons for answering question number 3.

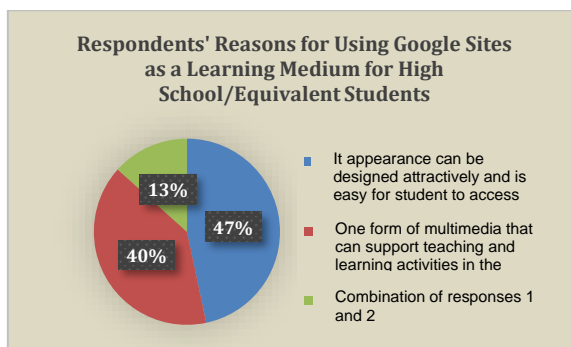


Figure 13. Answer to Question 4.

- 5) Write down your opinion after attending a short lecture regarding Google Sites and what do you think when viewed from the aspect of attractiveness of appearance and ease of access?

Lectures become more engaging, and materials, videos, assignments, and more can be easily uploaded to Google Sites. Furthermore, these media are easily accessible through a single link. This course provides additional knowledge about media that teachers can freely create and can serve as a communication bridge between teachers and students, for both offline and online learning.

Based on student responses prior to the lesson, 40% of students reported having used web-based learning media such as PowerPoint (PPT), Canva and Animaker, Quizizz, comics, and audiovisual materials. Furthermore, 40% were unsure, and 20% had never used web-based learning media. This indicates that web-based learning media is not unfamiliar or new to students.

Furthermore, 27% of students responded that they had created website-based learning media, 13% were unsure, and 60% said they had never done so. Furthermore, 75% of students had created their own learning media in the form of instructional videos, and 25% had created visual learning media. Students stated that this had been done as an assignment in a previous meeting of the chemistry learning media course.

When students were asked about Google Sites, only 27% answered that they were familiar with it, and the remaining 73% had never heard of it. The source of this media came from social media such as Instagram, WhatsApp, YouTube, and so on, which was answered by 50% of students, 25% sourced from search sites such as Google, Wikipedia, and so on, and 25% from other information sources. Then, 89% of students answered that they were interested in learning about Google Sites, and 11% of students answered that they were hesitant. This shows that Google Sites media is interesting to study more deeply because many students are still unfamiliar with this media.

After attending a lecture using Google Sites, all students felt a positive impact due to its attractive appearance and the ability to incorporate audio-visual media such as images, games, and other materials. This finding is supported by research [18]. Students find Google Sites more comfortable learning because it presents material in the form of colored text, images, video, and audio. Furthermore, this medium fosters a fun and motivating learning environment for students and is easy to use.

Furthermore, all students agreed that Google Sites could be used as a chemistry learning tool in high school and equivalent levels. This was due to several reasons: 1) its attractive design and easy-to-access interface, and 2) its use as a multimedia tool to support the teaching and learning process in the classroom. Research conducted by [29] shows that 28% of respondents stated that they strongly agree and 72% stated that they agree that the use of Google Sites learning media is very necessary for teachers in delivering lesson materials.

As prospective chemistry teachers, students believe that Google Sites provides a more engaging learning experience because it allows easy access to materials, videos, assignments, and more through a single link. Teachers can also freely customize this platform, serving as a bridge between teachers and students, both in online and offline learning. This finding aligns with research conducted by [30] Google Sites can be accessed from any internet-connected device, with a domain that accesses web pages, and includes material explanations, instructional videos, images, sample questions, and practice exercises. Google Sites can be an alternative, contemporary learning medium that can be tailored to the needs of teachers and students. Furthermore, inputting materials and evaluating learning is now available through a single website link.

CONCLUSION

Based on the research that has been conducted, it can be concluded that the use of Google Sites in the chemistry learning media course received positive responses from both lecturers and students. Although most students were previously unfamiliar with Google Sites, they showed strong interest in learning it. After implementation, all students reported positive impacts, particularly in terms of accessibility, visual appeal, and its ability to integrate materials, videos, and assessments within a single link. Google Sites is considered feasible for implementation at the senior high school level due to its practicality, flexibility, and ease of use without requiring programming skills. Therefore, it can serve as an alternative digital learning media that supports prospective teachers in integrating technology into classroom practice.

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