

Research Article

Google Sites as ICT Learning in Indonesia: The Benefits and Implementation

Vicky Dwi Wicaksono^{1,2}, Hendrik Pandu Paksi^{1,2}, Supriyono²

¹Graduate School of Universitas Negeri Malang, Indonesia.

²Faculty of Education, Universitas Negeri Surabaya, Indonesia.

Abstract.

Various information and communication technology products began to be widely implemented in school learning. Elementary and junior high school development is a great time to teach technology. One of the popular ICT learning products is Google Sites. Through a literature study, this study aims to collect, observe, and categorize data on using Google Sites for learning in schools. We collected 85 literature sources from national and international articles to find data on the benefits and implementation of Google Sites as ICT learning. Based on the analysis and literature study results above, it can be concluded that the use of ICT by schools in Indonesia is mostly used as a learning management system. The benefits of using Google Sites as a web-based ICT for Learning are categorized into 3, namely: technical benefits, benefits for teachers, and benefits for students. Google Sites as ICT learning can be implemented to develop learning media, counseling service activities, language learning, and online library services. The results of the literature analysis show that schools in Indonesia use Google Sites more as a learning medium than other activities. Nonetheless, Google Sites is a new challenge for teachers to continue to improve their skills in operating technology to improve students' digital literacy.

Keywords: Google sites, ICT learning, elementary school, junior High School, learning media

Corresponding Author: Vicky Dwi Wicaksono; email: vicky.dwi.2021039@students.um.ac.id; vickywicaksono@unesa.ac.id

Published 16 May 2023

Publishing services provided by Knowledge E

© Vicky Dwi Wicaksono et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ICLIRBE Conference Committee.

1. INTRODUCTION

The development of the industry continues to increase along with the times. The level of human modernity is growing from time to time. Many things that are conventional, traditional, and manual are left behind. Humans continue to pursue efficiency and the practicality of life. Every job strives to continuously make changes to achieve the most efficient level of work. After the development of the industrial era 4.0, the world began to creep into the era of society 5.0. Society 5.0 is a condition of society whose life cannot be separated from the digital world. Almost all daily activities can be completed with the results of digital technologies. The digitization process has spread in almost all sectors of life, including economic transaction activities, social activities, cultural dissemination, dissemination of public information, and health assessments in the education sector.

 OPEN ACCESS

Statistical results launched by the Ministry of Communication and Information in 2019 increased the number of internet users by 10% compared to the previous year[1].

The era of society 5.0 has produced many digital transformations, especially in education [2]. The field of education includes all activities related to learning and teaching. Activities that occur in the education sector include the teaching and learning process in the classroom, the curriculum implementation process, national evaluation, and the distribution of learning resources. As a result of the development of the 5.0 society era, education actors continue to orient all teaching and learning activities to be digital-based. Learning in elementary school has begun to develop from a conventional model to a digital-based one [3]. Every change is carried out in stages to achieve an even distribution of technology in the world of education. Educational curricula in various countries have also been arranged so that schools can create a learning atmosphere that is nuanced in technology. It is because the digital era requires people to be technology literate, including school-age children. That is why school learning uses technology products to support the learning process [4].

Efforts to change learning activities so that they are technology-based are not only to follow the trends of the times but also to try to answer the challenges of the times. Every change that occurs requires adjustment and adaptation for anyone who experiences it. Suppose the times demand modernity in science and technology. In that case, humans as actors in life must also be able to operate them. The quality and skills of human life must continue to be honed so as not to experience obsolescence. Not only the demands of the times but technology can also be considered a solution to various problems in the world of education. One of them is the use of learning media, considered less than optimal in stimulating student interest and learning outcomes. Most schools still use pictures as a medium of learning. It makes students feel they have low abilities due to the low stimulus and make them bored [5].

Students need interactive learning media. Learning media that can stimulate students are learning media that can provide two-way interaction. The concept of the material can be well embedded in students' knowledge if a stimulus and response occur. Not just pictures and still writing, then just observed. Learning media began to develop interactive models to stimulate students' motor skills, such as 3-dimensional wall magazines, experimental pipes, and artificial props that can be touched with the senses. Although this can help students to interact directly with concrete objects, the limitations of space, cost, maintenance, and time for procuring these tools are still a problem. Moreover, science is expanding. If there are new material concepts, more props and miniatures are needed to reach students' understanding.

The emergence of technology in education can answer these problems. Technology can answer the limitations of space, cost, maintenance, and workforce for the provision of interactive learning media. Everything that students need can be summarized into virtual media and can be accessed in various technology products, such as cellphones, laptops, and computers. When connected to the internet, a number of these electronic devices can provide us with various things we need. Technology and the internet play a significant role in students' learning media development. With technology, learning media have become more varied and have prospects for sustainable development. One of the uses of technology in learning is e-learning[6]. Education has undergone extraordinary changes because the source of knowledge is not only obtained from a teacher but can be searched anywhere and anytime via the internet[7]. It makes the learning process more efficient. The internet can improve critical thinking skills and the ability to understand the findings of anyone who uses it.

Technology development today is often called ICT (Information and Communication Technology). ICT can be used by anyone and in any sector of life. ICT has become a transformation in life that offers various conveniences for humans. ICT is used in various economic, social, legal, cultural, political, and educational activities. Teachers use ICT to develop their teaching skills by maximizing the limited features to create illustrations and simulations in learning[8]. The use of technology for education continues to overgrow. Many information technologies are being developed in every educational institution, such as Youtube, Google Classroom, Whatsapp, Edmodo, E-Learning, and others[9]. Learning using technology can create an easy and fun learning process[5]. The number of technological results that are adapted to the learning process seems to answer the problem of limited interactive learning media for students.

Technology has many advantages in adapting to student learning styles. Students can explore learning content with specific topics they like and allow them to engage in a simulation of learning activities that can improve their skills [10]. Students are expected to be able to develop digital literacy as a support for their learning activities (Nuryati, et al., 2022). Currently, students are getting used to digital technology in their daily lives. The results of the 2018 PISA Research explained that children had done many learning activities on the internet, such as browsing the internet for schoolwork; browsing the internet to continue lessons from school; and use learning applications or websites both at home and at school (Hori). Schools should provide facilities to support digital literacy so that students can read, understand, and analyze various digital sources [12].

At the beginning of its development, schools only adapted the technology for small things in teaching and learning activities. For example, it displays video on the projector

screen, adds simple computer subjects, and designs a language laboratory for speaking and listening activities. However, along with the times, technology can now be used as a learning management system, which is more often referred to as a Learning Management System (LMS). LMS is a system specially designed by educational institutions to regulate, provide, organize, and carry out all learning activities on a computer system and website. LMS is software that must be operated with a computer or even need to be connected to the internet. The concept of LMS is often considered as a process of changing educational activities, which were initially in the form of face-to-face in the classroom, to become virtual, virtual, and remote. Procurement of LMS is like entering all class elements into a computer. Students and teachers can do any activity online, from their own homes, without needing to meet face-to-face. Most of the LMS used by schools are often web-based. The concept of learning services that got a touch of information and communication technology was then known as web-based learning or web-based learning [6].

Digitization of learning tools packaged in the form of websites is very helpful for teachers in providing learning media that follow the developmental level of elementary and middle school students [13]. The benefits of applying website-based learning media to students are 1) interactive, there is communication between teachers and students either directly or indirectly; 2) is independent because it makes it easier for students to learn on their own independently; 3) access that makes it easier for students to learn and obtain information about the subject matter; 4) is enriching because it can increase the potential possessed by students [4].

The development of website-based ICT Learning is quite challenging to do. For designing a private LMS owned by a school, programming and website design are needed by Information and Technology (IT) experts. This process, of course, is expensive and takes a long time. This problem has been answered by a large company in the internet field, namely Google. Google has succeeded in providing free website design services with a more straightforward process without needing experts. Designing Google Sites can be done by anyone, even beginners. The existence of Google Sites has helped develop ICT Learning in the world of education. Google Sites is one solution for educational intuition, especially teachers, to design websites easily, without coding, and can be accessed for free [14]. Google Sites has been widely used for various educational activities in educational institutions such as schools. Google Sites is used as ICT for Learning by many schools in the world. Therefore, the purpose of this literature study is to collect various literacy sources and references related to using Google Sites in education.

2. METHOD

A comprehensive literature study was conditioned to analyze the theory and research methodology to explore the use of Google Sites in learning [8]. The process of preparing the literature review is carried out through several stages, namely: 1) Problem formulation; 2) Data collection; 3) Analysis and Interpretation; 4) Public Presentation [15]. The problem topic in this research is to explore the advantages and implementation of Google Sites for ICT Learning in schools. The data collected comes from several academic research, public policies, and official international statistics. Articles are collected from several digital sources, such as Google Scholar, Science Direct, and the Directory of Open Access Journal (DOAJ). The keywords in the article search were "ICT Learning,"; "Google Sites,"; "Google Sites for education and learning." The search time is limited to the last five years, 2018-2022. The articles collected are categorized based on articles that discuss ICT Learning, the advantages of Google Sites, and the implementation of Google Sites in education. The findings are then analyzed to determine which educational activities use Google Sites the most. In addition, the findings about the advantages of Google Sites will be grouped from a technical, practical, and development point of view.

After going through the selection stage, 85 articles met the requirements and were used as literature review material. A total of 12 articles discuss ICT Learning; 9 articles on using Google Sites for language learning; 10 articles on G-Sites for counseling; 17 articles on teacher training to operate G-Sites; 36 articles on the implementation of G-Sites for learning; and 1 article about G-Sites for virtual libraries. The findings will be processed and analyzed to find out about 1) the development of ICT for learning; 2) the Advantages of Google Sites for ICT Learning; 3) the Implementation of Google Sites in educational institutions, and 4) Teachers' challenges to the development of Google Sites for ICT Learning in the future. The results of the literature study formulation can be used as a basis for reference and a source of inspiration to analyze topics related to the advantages of Google Sites and its application in the world of education.

3. RESULTS AND DISCUSSION

3.1. ICT Learning

Generation Z is the generation that was born in the years when technology was developing rapidly. Since their birth, their lives have been greatly assisted by technology

and the internet[16]. Therefore, elementary school-age children born above the 2000s will be more fluent and interested in using technology at a young age. Generation Z children grow up with technology, the internet, and social media[17]. Technological developments make almost all Z generation children have personal smartphones that are used to play games. Technology and children nowadays are friends. We have to involve technology in education as soon as possible. This development aims so that students have a functional balance in using technology. They not only spend time playing but also learn and understand science. For this reason, developing an online learning system that can be easily accessed on all devices must be done a little faster. So that the use of devices can be maximized for the learning process rather than playing[18].

The essential goal in the teaching process in the classroom is to assist students in achieving learning objectives[19]. Media is needed to encourage student interest in learning to achieve learning objectives. Learning media can make students more expressive in conveying messages and influence their thoughts, feelings, and curiosity to encourage learning [5]. Students need meaningful learning to explore new concepts in various learning modes, including online[20]. So now, digital-based learning media have been developed. Digital-based learning media means using media as learning aids using internet devices and technology[3]. Both teachers and students have an advantage in exploring technology education. Teachers can learn about integrating technology in their classrooms. Students will become increasingly interested in learning with technology[21]. Teachers can choose media to communicate with students, design content that can attract students' interest, and determine learning activities that make it easy for all students[22]. Teachers need to design learning in order to create an interactive learning atmosphere. It is because interactive learning is the core concept for realizing an ideal tracking group[10].

In addition to digital-based learning media, educational institutions such as schools have recently developed a learning management system. Learning management is a system prepared for teachers and students to carry out learning activities using a device[23]. Through e-learning, students not only listen to material descriptions from educators but also actively observe, perform, demonstrate, and so on[16]. The existence of a Learning Management System makes students more active in downloading and exploring various subject matter to complete assignments [24]. Technology requires students to practice and simulation rather than just understanding theory in class. 21st-century skills require academic skills, thinking, and personal skills [25]. All of that can be trained by allowing students to move and study freely at LMS. Schools can adjust the

Learning Management System (LMS) according to school conditions and the abilities of each student [22]. Several stages are needed to design a learning management system, such as planning, organizing, implementing, and supervising[23].

Technology development in education has become an exciting topic that is often discussed in various international studies and articles. The term that is often mentioned in this discussion is ICT for Learning. ICT results from human engineering in delivering messages and information from one to another, which make it faster, has a broader distribution, and has more extended storage [26]. ICT is a technology that transfers, processes, creates, displays, shares, or changes information electronically [27]. The process of sending messages and exchanging information is now becoming more modern due to the innovation of ICT. ICT proves its effectiveness in transferring learning worldwide for people who cannot move from place to place due to limited time, space, cost, workforce, or otherwise [27].

Information, Communication, and Technology began to be adapted in the world of education for learning. Curriculum development requires the integration of ICT with lesson plans[28]. ICT is essential in implementing learning, namely as an independent learning medium [16]. In addition, ICT makes the learning process very open and flexible because it makes it easier for us to access various resources in a limited space [10]. ICT can also increase students' understanding of a learning theory because they will find facts and realities directly in the field [10]. Thus, their critical thinking skills will increase. ICT Learning can support students to think creatively and improve their creative thinking skills[29]. It is because ICT can increase student concentration and support active learning [8]. Students who surf the internet to study independently can focus more on achieving their learning goals than students who study together in class with centralized direction from the teacher. Thus, ICT must be immediately concentrated in all educational institutions[30]. Especially now that the trend of distance learning, hybrid learning, and homeschooling is starting to develop. ICT development must be maximized to be a fun and effective learning site to support the learning system as it is today.

Learning with ICT can increase students' confidence [10]. Teachers need to support and facilitate students during the learning process. Teachers can ask students to browse a topic and give students the freedom to explore. Once students succeed in finding and proving a theory, students will be more enthusiastic about continuing to explore their knowledge with confidence [10]. ICT can make learning more interesting for students. ICT facilitates communication between teachers and students without forgetting the affective, cognitive, and behavioral processes [8]. The development of ICT learning is

also beneficial in learning English, especially in the listening section class[31]. ICT greatly influences English learning services, especially for fluency in speaking, such as native speakers and pronunciation[32]

In the era of modern technology development, ICT Learning needs to be applied at all levels of education[33]. ICT can train students to learn actively and independently from home[30]. In one study, students who used ICT continuously in their learning showed better knowledge, presentation skills, and ability to innovate and were more prepared to study harder than their non-ICT counterparts[34]. Pike and his friends formulated several benefits of an online learning system using ICT Learning, including 1) Reducing panic and stress experienced by students; 2) Support issues of diversity, inclusion, equity, and justice; 3) Developing scientific communication skills; 4) Provide online and hybrid learning activities [35].

3.2. The Benefits of Google Sites as ICT Learning

3.2.1. Technical Benefits

3.2.1.1. No Programming, No Coding, Just Linking with Any Platform

Almost everyone has sufficient experience in visiting websites, so the website can be a credible resource for students[36]. Google Sites is a website-based learning media using an information service with hyperlinks to find information[4]. Google Sites is one of the media websites from Google that can be an alternative choice for distance learning media(Kusumaningtyas, 2022). Technically, Google Sites has many advantages in its use as a web page. Google Sites can contain animations and learning with good efficiency and achievement in simplifying complex content [38]. A study shows that Google Sites meets three components of website quality with WebQual: usability, information quality, and Service Interaction Quality [39].

Technically, the benefits of Google Sites in education are also quite a lot, which is why many educational institutions use it for their learning activities. Regarding features that can be used, Google Sites is complete for basic internet activities. The Google Sites website can add features of images, text, videos, documents, graphics, maps, spreadsheets, and Youtube, as well as material links that can be directly linked to the desired page according to the topic ((Mardin & Nane, 2020;Tresnawati, 2021). This availability is supported by sources of teacher teaching materials that can attach e-books, power points, teaching videos, and assignments in an organized manner[24]. Another advantage of Google Sites is that it provides multimedia in the form of audio,

visual, and audio-visual material so that it supports learning efficiency that can be accepted by all students [41].

3.2.1.2. Easy to Access and 24/7 hours

Regarding platform quality, Google Sites also offers various conveniences for beginners. One of the benefits of Google Sites for students is the Search Engine feature that makes it very easy for students to find teaching materials based on keywords[42]. This condition can anticipate students' difficulties in collecting material so that students are not left behind in subject matter due to scattered sources. Google Sites has several advantages, including interactive web browsing flow; can be used immediately; can be set open or closed access mode, and access settings only author or open to all users can be run[43]. The results of color designs and image combinations on Google Sites are of good quality and not broken; this is better than printed books which require expensive costs for good print color quality [7]. This condition makes it easier for students to enjoy content in Google Sites calmly and comfortably.

Moreover, all students can use Google Sites simultaneously at any time and can operate for 24 hours without stopping[7]. All students who use it together from home will not be constrained by a website that has errors or is disrupted due to too many users using it. Teaching materials based on Google Sites custom domains are easier to find without any obstacles from various specifications of student devices [7]. Students can use their phones, tablets, or computers to access Google Sites. Although operating Google Sites requires a network to stay online, Google Sites storage does not require large data or can be accessed online without burdening devices or computers[44].

3.2.1.3. Can Modify into Android Application, Edu-Game, and Compilation of Materials

Websites provide access to educational content resources from anywhere[45]. Google Sites can integrate various relevant sources of information on the internet into a unit of teaching material sources based on an organized topic[21]. This ease of organization can be used as a primary material design concept. It can be converted into a more attractive, interactive, and fun digital android application[7]. Google Sites features can provide an exciting and not dull display of information and design as creatively as possible into a fun educational game. Google Sites and Wordwall can be used to provide classic games such as Quiz and Crossword. There are also game types such as; Find the Match,

Random Wheel, Missing Word, Random cards, True or False, Match up, Whack-a-mole, Group short, Hangman, Anagram, Open the Box, Wordsearch (Search for words), Ballon pop, Unjumble, Labelled diagrams, and Gameshow Quiz[44].

3.2.2. Benefits for Teachers

3.2.2.1. Adjustable with Student's Learning Style

Google Sites is an application that is widely used in learning activities. Google Sites can act as a Learning Management System (LMS) in educational[46]. As a technology-based learning media, it is very beneficial for teachers to create various interactive and varied digital learning media. Some of the benefits that teachers might feel when using Google Sites, namely (1) uploading learning materials, (2) saving the syllabus, (3) giving assignments, (4) giving announcements, and (5) downloading and viewing student assignments (Farida & Indah, 2021;Jubaidah & Zulkarnain, 2020). Google Sites provides accessible facilities for teachers to design their learning content to be more interesting(Aisyah, 2022). Before starting to learn, teachers need to independently prepare exciting and accessible materials or teaching materials for students [9]. This application can make it easier for teachers to develop their scientific ideas, which will be given to students as a learning method[49]. The advantage of this application is that it can support teachers in designing many web designs according to the characteristics and materials of student teaching materials.

3.2.2.2. Save Energy, Cost, and Working Hours

Teachers use Google Sites as an alternative way to convey knowledge and materials so that the problem of lack of conventional learning time allocation in class can be resolved [50]. Thus, the working hours of teachers also become more effective. Teachers can update and revise materials directly without requiring to rearrange them with students technically[6]. This facility will significantly assist in learning activities between teachers and students. A study proves that using Google Sites as a Learning Management System is very effective in learning because it can be accessed for free and is relatively simple[24]. It makes teachers save more energy and costs. Teachers do not need to spend hours and hours on web designing like programmers or web designers. Anticipating the amount of material that is made, teachers can collaborate to share student material, so the teacher's burden becomes easier.

3.2.2.3. Easy to Create, Manage, and Collaborate

Google Sites has the advantage that it is easy to create and collaborate with other designers to edit page content [23]. Some advantages felt by the creator or author are the navigation of page divisions that are easy to manage, available templates and layout designs, freedom of theme, image, text and font settings, and providing displays for smartphones, tablets, and computers [43]. This is in line with Aminah's opinion, which says that the advantages of Google Sites as a learning media have that advantage of providing graphic presentations with attractive appearances, can be manipulated freely, and in the form of visual representations that please students[51]. Thus, each teacher can complement, correct, and perfect each other's web designs.

3.2.3. Benefits for Students

3.2.3.1. Student Learning Will be More Meaningful

As a learning medium whose target object is students, this website also has many benefits for students as readers or web accessors on Google Sites. Google Sites can provide services that give students the freedom to write and express their opinions, such as writing their ideas on a Blog[8]. This advantage can make students more enthusiastic about exploring the teaching materials. Google Sites allows students to learn in a structured and coherent manner according to the categorization of materials that have been designed by the teacher[52]. Thus, this website makes it easier for students to learn without the help and guidance of teachers. Students accustomed to active learning can stimulate the brain's performance more optimally and make students more productive[53]. The learning process will develop into student-centered learning, which makes student learning more meaningful.

3.2.3.2. Student Learning Will be Effective And Efficient

The benefits that students get while using Google Sites are practicality and efficiency. Learning activities carried out by teachers and students on the Google Sites web can hone critical thinking, communication, collaboration, and creativity in exploring knowledge[54]. Learning using Google sites can be developed as a multimedia tool for the Blended Learning method[55]. A well-organized learning flow and topics can make it easier for students to organize their own time, stage, and place of learning. Students can practice self-management and activities to become more independent individuals.

Google Sites is considered reasonably practical because it does not require many books and is heavy to collect reference teaching materials[56]. With Google Sites, students can choose how to learn by reading or by watching, and this is because the way students learn and understand varies [16]. In addition, Google Sites can provide learning and material notes for students, so they do not have to take notes on many lessons(Aisyah, 2022). Google Sites web-based teaching materials can present images, sounds, and videos, which can visualize the state of nature according to reality [6]. Students will observe the same conditions as they are without having to leave the room.

3.2.3.3. Student Become More Active and Creative in Independent Learning

Student learning outcomes after using Google Sites can be considered quite good. Google Sites integrates technology, pedagogy, content, and knowledge, making it easier for students to understand scientific content well [17]. This integration can increase the mastery of concepts and deepen students' material on their initiative without coercion[53]. Learning using Google Sites can directly improve students' cognitive outcomes because students can learn actively and independently[57]. Students become more responsive when studying the materials contained in Google Sites. Thus, learning becomes two-way. Students can access materials that encourage the formation of study habits, concentrate concentration, and strengthen a solid basic understanding[47]. The results of student learning after using Google Sites are that students become more active in independent learning. They are accustomed to using technology in this 4.0 industrial era. Students can search for teaching materials on their own on website media anywhere and anytime[16]. After students use Google Sites, learning motivation increases; students become more active in learning the material and increasing students self-confidence for completing the tasks given on Google Sites (Aisyah, 2022;Nuryati et al., 2022)

3.3. The Implementation of Google Sites in Education

A website is an information and communication system. So that in its implementation, the website can be used in jobs related to the two systems. Google Sites plays an essential role in the world of education. Google Sites can be used as a practical learning platform because it can provide study rooms, online absences, assessments on google forms, save archives on Drive, integration of videos on Youtube, and grouping of teaching

materials The implementation of Google Sites in learning also varies. Some schools use Google Sites as a learning medium and a means of organizing teaching materials. Other schools use Google Sites for language learning, whether English, Indonesian, or regional. Another benefit of Google Sites is counseling services and portfolios by counseling teachers. A school also uses Google Sites as a library information center. The application of Google Sites in various school activities shows that this application is simple and flexible enough to be used in various jobs.

Based on the results of the literature analysis, from the 85 articles found, schools that implement Google Sites can be grouped in various sectors of education.

Diagram 1. Implementation of Google Sites in Education

From the results of the analysis of the topics in the 85 articles found, as many as 36 schools developed Google Sites for learning media. A total of 10 schools use Google Sites for counseling services. Nine of the 85 articles mentioned that Google Sites had been developed for language learning. Moreover, only 1 article source that mentions the use of Google Sites for virtual libraries. The use of Google Sites for learning media occupies the highest position. It proves that Google Sites is very popular with teachers and students to be used as a medium for daily learning. However, using Google Sites in other activities is still not as much as learning media. It can be used as a reference for developing Google Sites in other educational jobs.

3.3.1. Google Sites for Learning Media

Learning media must be designed according to student learning styles. Each student has a different learning style[23]. The learning media needed by each student also varies. Learning media is a medium for transferring information from teachers to students with various tools[16]. Learning media is needed to support the learning process(Nuryati, et al, 2022). Learning media must be designed attractively and follow the interests and character of students so that students become more active in learning [12]. Learning media has several benefits: a) Clarify the presentation of the material to be less verbal; b) Overcoming the limitations of space, time, and taste; c) Overcoming student passivity, and d) Provide the same stimulation, experience, and apperception[58].

Website-based learning media can improve teacher quality, student learning outcomes, and practicum skills [4]. Navigation features in Google Sites can be designed in various ways, in the form of materials, curriculum frameworks, quizzes, discussion forums, task completion, references, games, and so on(Zainal & Kasmawati, 2021;Yuniarto et al., 2021). These features can be developed as various online learning

methods. The communication process between teachers and students requires adequate facilities to run optimally. Adequate facilities can make it easier for students to interact with each other and with higher-level teachers [10].

Website-based learning media can improve teachers' quality, student learning outcomes, and practical skills[3]. Implementing Google Sites to deliver teaching materials can improve students' conceptual understanding[20]. The use of Google Sites makes learning media designed by teachers more varied. Student interest and learning achievement can be increased by using Google Sites media innovation because they can simultaneously access cognitive, effective, and psychomotor learning[24]. The benefit of Google Sites as a learning medium is that it provides services for recording, covering, reflecting, and reporting on a study topic that students have understood. It can trigger students' intelligence in oral and written communication[8].

3.3.2. Google Sites for Language Learning

Development was carried out by Hariadi, a teacher who uses Google Sites as multimedia blended learning for learning Javanese Wararembug[55]. Language learning can include writing, reading, listening, and speaking activities. In this case, Google Sites can provide lessons for all these aspects. For example, in learning English. The most important aspect needed in learning English is listening. Many listening learning resources can be accessed online, such as BBC, CNN, and British Council[32]. Easy access to listening from native speakers recorded and distributed in ICT supports student learning from authentic teaching materials[31]. Students will get real examples of the use of English when speaking. Google Sites addresses the lack of listening teaching materials with the text-to-speech feature. Google Sites can help adjust the speaker's voice to contextualize listening teaching materials[32]. A virtual language laboratory can be realized with this website.

3.3.3. Google Sites for Counseling

Counseling teachers should be at the forefront of controlling students' mental health during distance learning[59]. Changes in learning from conventional to online from home resulted in a decrease in the motivation of several students, so they needed the services of a counseling teacher to continue to motivate students to learn from home[60]. A study has developed Google Sites as a virtual counseling service provider

called Cyber Counseling [61]. Cyber counseling is a new model in the world of counseling with the help of internet connections and media to conduct virtual face-to-face or chat through the website, mail, or other social[62]. The use of Google Sites in this service is beneficial in increasing the efficiency and convenience of clients. The limited schedule of counseling teachers to enter student classes due to the density of learning does not eliminate the opportunity for students to get counseling services so that they are provided online [63]. Flexibility Google Sites can provide an independent, classic initial assessment service that can be accessed by every student anywhere and anytime[64].

Counseling teachers can use Google Sites for counseling activities and career guidance. A study also developed Google Sites as a Guidance and Counseling medium to counsel students on the dangers of drugs [65]. Another counseling service that can use Google Sites as a medium is the student electronic portfolio feature to make it easier for teachers to assess each student from one grade level to the next[66]. Counseling teachers at Deli District Junior High Schools developed a Belajar.id account to develop a Counseling Service Program and online assessment for students using Google Classroom and Google Sites [67]. Another example of counseling activities is classical guidance. Classical guidance in counseling using Google Sites can increase the effectiveness of the counseling teacher's performance. Classical guidance can help students or students to identify careers (Yuliani et al., 2022). The provision of classical services directly at certain times is considered less than optimal due to the large number of students queuing for guidance, especially before graduation. Therefore, classical tutoring with Google Sites can help provide distance guidance services fairly and equitably to all students (Yuliani et al., 2022).

3.3.4. Google Sites for E-Library

The provision of a library information center can also be expanded with the Google Sites web. Complete features such as menu organization, page designs that can be created, and the search menu can make it easier for school librarians to organize books. Librarians can also provide information about a complete book catalog. As a digital transformation of printed reading resources, Google Sites can be used for various information centers, such as e-library, e-syllabus, e-question paper, e-newspaper, and e-resource service[69]. The latest information and news can also be shared on the Google Sites page by taking advantage of the Google Sites feature, which can be updated anytime and anywhere.

3.4. Challenge for Teachers

Student life that is inseparable from technology requires direction and guidance from adults to use it wisely. Technology collaboration in learning is deemed necessary to create a digital-literate generation. Therefore, teachers need to integrate technology into the classroom[17]. Teachers are managers in the learning process [23]. Educators in the 21st century should focus on student learning to create a generation with knowledge and skills in managing ICT, critical thinking and problem solving, effective communication, and collaboration [70]. Teachers are expected to have qualified technological skills to balance the learning process to design learning by the times [7]. Efforts to improve the skills of educators so that they have professional abilities in the field of ICT are often hampered due to limited time, facilities, funds, and available workforce. Schools still do not give teachers adequate time to learn and use ICT as a medium of learning. School facilities are still limited in supporting ICT facilities [8]. In fact, teachers have great potential to develop their skills in the field of ICT creatively and innovatively[16].

To develop ICT as a system in learning, teachers need solutions to connect future needs with their technological skills. Teachers must strengthen the link between technology integration and education reform[8]. It can be done by holding teacher training programs for teaching preparation. They need further training and mentoring to understand the operation of Google Sites more deeply[71]. They have an important role to develop the quality of education. One of them is mastering the LMS, which requires careful preparation before being implemented [23]. After mastering technology, later the teacher will have time flexibility and more benefits to distribute independent materials and assignments to students[49]. Teachers can also provide assistance and training to students while using technology. Although using Google Sites is relatively easy, students need a basic understanding to operate and use the web during teaching and learning activities[72].

Google Sites is a digital-based learning media that requires teacher competence[73]. The success of ICT in education depends not only on the availability of computers for students but also on the skills of teachers. Learning facilities on the web are only tools; teachers need to design Google Sites into an approach that adapts one or more learning methods, such as: discovery learning; group discussions; and scientific learning[20]. Teachers should make students more familiar with technology[49]. Teachers must support students in becoming independent learners by integrating ICT into learning [74]. Teachers can use Google Sites to provide schedule information for learning activities that can be integrated with Google Calendar; provide surveys; create

documents with students, and present material that can be downloaded at any time [75]. To continue development, teachers need to learn continuously through fellow teachers and IT teachers and download various video tutorials on using ICT as a learning medium [74]. This technology mastery effort can help teachers prepare generations of students for the future Industry 4.0 and Society 5.0 era [76].

4. CONCLUSION

Based on the analysis and literature study results above, it can be concluded that the use of ICT by schools in Indonesia is mostly used as a Learning Management System. Technically, Google Sites in education has advantages, namely : 1) It does not require programming and coding but can be connected to many platforms; 2) Easily accessible and can be used for 24 hours simultaneously; 3) It can be modified into Android applications, Edu-Games, and compilation of teaching materials. As for teachers, the benefits include 1) Google Sites can help teachers adapt media to students' learning styles; 2) Teachers can save energy, costs, and working hours; 3) Teachers as beginners can easily design, operate, and collaborate on websites with other teachers. As students, some of the perceived benefits are: 1) Student learning becomes more meaningful; 2) Learning becomes more effective and efficient; and 3) Students become more active and creative in independent learning.

Google Sites as ICT Learning can be implemented to develop learning media, counseling service activities; language learning; and online library services. The results of the literature analysis show that schools in Indonesia use Google Sites more as a learning medium than other activities. Nonetheless, Google Sites is a new challenge for teachers to continue to improve their skills in operating technology to improve students' digital literacy.

References

- [1] Dewi EM, Suhaya, Fujiawati FS. "PENGEMBANGAN GOOGLE SITE SEBAGAI MEDIA UNISONO DI KELAS VII SMP ISLAM PARISKIAN KOTA SERANG." *JPKS (Jurnal Pendidik. dan Kaji. Seni)*. 2022;7(1):23–37.
- [2] Endang AH, Paramita AJ, Syahrudin AD, Syafaat M. "Pengenalan Digital Dalam Membentuk Milenial Kreatif Untuk Menghadapi Era Society 5 . 0 Di Kabupaten Enrekang." *Empower J Pengabdian Masy.* 2022;1:489–495.

- [3] Mardin H, Nane L. "Pelatihan Pembuatan Dan Penggunaan Google Sites Sebagai Media Pembelajaran Kepada Guru Madrasah Aliyah Se-Kabupaten Boalemo." *J Abdimas Gorontalo*. 2020;3(2):78–82. doi: 10.30869/jag.v3i2.652.
- [4] Mardin H, Uno AH, Despianti SR, Lakutu DN. "PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS WEBSITE BAGI GURU SD IT QURRATU 'AYUN KOTA GORONTALO Herinda." *J Pendidik dan Pengabd Masy*. 2022;5(3):220–224.
- [5] Mabruuri H, Ahmadi F, Suminar T. "The development of science mobile learning media to improve primary students learning achievements." *J Prim Educ*. 2019;8(1):108–116.
- [6] Nalasari KA, Suarni NK, Wibawa IMC. "Pengembangan Bahan Ajar Berbasis Web Google Sites Pada Tema 9 Subtema Pemanfaatan Kekayaan Alam Di Indonesia Untuk Siswa Kelas Iv Sekolah Dasar." *J Teknol Pembelajaran Indones*. 2021;11(2):135–146. doi: 10.23887/jurnal_tp.v11i2.658.
- [7] Abdurrochim PL, Khairunnisa Y, Nurani M, Aeni AN. "Pengembangan Aplikasi BEAT (Belajar Asyik Tentang) Pendidikan Agama Islam untuk Meningkatkan Hasil Belajar Pendidikan Agama Islam Siswa Sekolah Dasar." *J Basicedu*. 2022;6(3):3972–3981. doi: 10.31004/basicedu.v6i3.2749.
- [8] Sabiri KA. "ICT in EFL teaching and learning: A systematic literature review." *Contemp Educ Technol*. 2020;11(2):177–195. doi: 10.30935/cet.665350.
- [9] Yulinda R, Putri RF, Sya'ban MF. "Pembuatan Bahan Pembelajaran Melalui Google Site Untuk Guru Smp Pada Pembelajaran Daring." *J War Desa*. 2021;3(2):130–135. doi: 10.29303/jwd.v3i2.143.
- [10] Boothe D. "Transforming the ICT learning environment for english language learners." *J High Educ TheoryPract*. 2020;20(3):22–25. doi: 10.33423/jhetp.v20i3.2968.
- [11] Nuryati S, Subadi T, Muhibbin A, Murtiyasa B. "Pembelajaran Statistik Matematika Berbantuan Website Google Sites (Quizizz) di Sekolah Dasar." *J basicedu*. 2022;6(2):2486–2494.
- [12] Fuadi ND, Muhibbin A, Rahmawati LE, Fauziati E. "Implementation of digital literacy in elementary schools." *Spec Ugdym Spec Educ*. 2022;1(4):3209–3215. doi: 10.23887/ijee.v5i4.39480.
- [13] Fajri SC, Susanto. "Pengembangan Website Guru Melalui Google sites Di SMA Al Wafi Islamic Boarding School Depok." *Pro Bono J Pengabd Kpd Masy*. 2022;2:12–17.
- [14] Kencana WH, Budilaksono S, Thantawi, AM, Suwartane IGA. "Pengembangan Website Tanpa Coding Dan Hosting Gratis." *IKRAITH-ABDIMAS*. 2022;5(2):151–155.
- [15] Cooper HM. "The integrative research review: A systematic approach." *Appl Soc Res Methods Ser*. 1984;2.

- [16] Sulistyawati NLG, Suarjana IM, Wibawa IMC. "Pengembangan Media Website Berbasis Google Sites pada Materi Statistika Kelas IV Sekolah Dasar." *J Pendidik dan Konseling*. 2022;4(4):79.
- [17] Ramasundrum S, Sathasivam RV. "Effect of Google sites on scoience achievement among year five students." *Malaysian Online J Educ Sci*. 2022;10(2):24–34.
- [18] Ketut Sudarsana I, Bagus Made Anggara Putra I, Nyoman Temon Astawa I, Wayan Lali Yogantara I. "The use of Google classroom in the learning process." *J Phys Conf Ser*. 2019;1175(1). doi: 10.1088/1742-6596/1175/1/012165.
- [19] Tinungki GM, Nurwahyu B. "The implementation of google classroom as the e-learning platform for teaching non-parametric statistics during COVID-19 pandemic in Indonesia." *Int J Adv Sci Technol*. 2020;29(4):5793–5803.
- [20] Sarah LL. "The implementation of discovery learning using personal site in physics online classroom." *J Phys Conf Ser*. 2021;1957(1). doi: 10.1088/1742-6596/1957/1/012042.
- [21] Agad LML, et al. "Development of webquest using Google Site in teaching Circulatory System." *J Phys Conf Ser*. 2019;1340(1):0–5. doi: 10.1088/1742-6596/1340/1/012060.
- [22] Kasma S, Nirsal, Yasir FN. "Pemanfaatan Teknologi melalui Pelatihan Penggunaan Aplikasi Google Site bagi Guru SMAN 4 Kota Palopo." *ABDI LAKSANA J Pengabdian Kpd Masy*. 2022; 2(1):41–48.
- [23] Yuniarto E, Widayanti FD, Khasanah R. "Online learning management using Google sites on relations and functions in pandemic conditions." *J Educ Learn Math Res*. 2021;2(1):68–76. doi: 10.37303/jelmar.v2i1.49.
- [24] Rivai Beta A, Zurqoni. "Learning Management System (LMS) based on Google Sites as an effective learning media during the Covid-19 pandemic." In *Proceedings International Education Webinar of IAIN Palopo (PROCEEDINGS IEWIP) I - 2021*. 2021. p. 51–55.
- [25] Al Kandari AM, Al Qattan MM. "E-Task-based learning approach to enhancing 21st-century learning outcomes." *Int J Instr*. 2020;13(1):551–566.
- [26] Lubis AH, Idrus SZS, Sarji A. "ICT usage amongst lecturers and its impact towards learning process quality." *J Komun Malaysian J Commun*. 2018;34(1):284–299. doi: 10.17576/JKMJC-2018-3401-17.
- [27] Alkamel MAA, Chouthaiwale SS. "The use of ICT tools in English language teaching and learning: A literature review." *J English Lang Lit*. 2018;5(2):0–5.
- [28] Chai CS, Rahmawati Y, Jong MSY. "Indonesian science, mathematics, and engineering preservice teachers' experiences in stem-tpack design-based learning." *Sustain*. 2020; 12(21):1–14. doi: 10.3390/su12219050.

- [29] Sitompul RH, Situmorang J. "The effect of blended learning strategy and creative thinking of students on the results of learning information and communication technology by controlling prior knowledge." *Budapest Int Res Critics Linguist Educ.* 2020;3(20):879–893.
- [30] Suyatna A. "ICT learning media comparative studies: Simulation, e-modules, videos." *J Phys Conf Ser.* 2020;1572(1). doi: 10.1088/1742-6596/1572/1/012036.
- [31] Oktalia D, Drajadi NA. "English teachers' perceptions of text to speech software and Google site in an EFL Classroom: What English teachers really think and know Dwi Oktalia and Nur Arifah Drajadi Universitas Sebelas Maret , Indonesia." *Int J Educ Dev Using Inf Commun Technol.* 2018;14(3):183–192.
- [32] Oktalia D. "The implementation of e-speak in EFL classroom. What do teachers think?" in *2ND English Language and Literature International Conference (ELLiC).* 2018;2(35–40).
- [33] Qaddumi H, Bartram B, Qashmar AL. "Evaluating the impact of ICT on teaching and learning: A study of Palestinian students' and teachers' perceptions." *Educ Inf Technol.* 2021;26(2):1865–1876. doi: 10.1007/s10639-020-10339-5.
- [34] Alobaid A. "Smart multimedia learning of ICT: Role and impact on language learners' writing fluency— YouTube online English learning resources as an example." *Smart Learn Environ.* 2020; 7(1). doi: 10.1186/s40561-020-00134-7.
- [35] Pike A, Pandey S, Goller CC, Herzog J, Parks ST. "Opportunities and challenges of online instruction and effective pedagogy that blurs the lines between online and on-site teaching and learning." *J Microbiol Biol Educ.* 2022;23(1). doi: 10.1128/jmbe.00047-22.
- [36] Kurniadi W, Jusriati, Nasriandi, Ratna, "The implementation of Google site as e-learning platform for teaching EFL during covid-19 pandemic." *English Rev J English Educ.* 2021;10(1):129–138.
- [37] KUSUMANINGTYAS SI. "Penggunaan Google Sites Dan Video Pembelajaran Selama Pandemi Covid-19 Pada Materi Dimensi Tiga." *Sci J Inov Pendidik Mat dan IPA.* 2022;2(1): 1–9. doi: 10.51878/science.v2i1.914.
- [38] Songkhro J, Dequihna LS, Dominguez Jr. RR, Phanlapa Khathayut P. "Effectiveness of using animated videos via Google Sites in enhancing socio-culture of native English-speaking countries." *Educ Q Rev.* 2022;5(2). doi: 10.31014/aior.1993.05.02.497.
- [39] Zainal M, Kasmawati S. "Optimalisasi Google Site sebagai Media Pembelajaran Berbasis Website pada Pembelajaran Jarak Jauh." in *Seminar Nasional Pendidikan LPPM IKIP PGRI Bojonegoro.* 2021;15(2):1–23.

- [40] Tresnawati NMA. "Inovasi Pembelajaran Bahasa Bali di Masa Pandemi Covid-19 dengan Pemanfaatan Media Pembelajaran Google Site." in Prosiding Seminar Nasional Dharma Atarya ke 2. 2021 September. p. 12–20.
- [41] Tkachuk V, Semerikov S, Yechkalo Y, Khotskina S, Soloviev V. "Selection of mobile ICT for learning informatics of future professionals in engineering pedagogy." CEUR Workshop Proc. 2020;2732:1058–1068.
- [42] Arumdani IM, Wasito B, Sabandi M. "Pengaruh Pemanfaatan Situs Google Sebagai Sumber Belajar dan Motivasi Belajar Terhadap Prestasi Belajar Pada Mata Pelajaran Ekonomi Kelas XI di SMA Negeri 3 Surakarta." BISE J Pendidik. Bisnis dan Ekon. 2018;4(2):1–17.
- [43] Gerasimova EK. "Implementation of training using electronic learning materials based on web 2.0 Online Services." CEUR Workshop Proc. 2021;2834:137–147.
- [44] Isnaini L, Agustina DK, Sulistiana D. "PENGEMBANGAN GAME EDUKASI ANIMALIA BERBASIS ANDROID UNTUK SISWA KELAS X SMA/MA." Biodidaktika J Biol dan Pembelajarannya. 2021;17(2):36–44.
- [45] Bueno M, Perez F, Valerio R, Areola EMQ. "A usability study on Google Site and Wordwall. Net: Online instructional tools for learning basic integration amid pandemic." J Glob Bus Soc Entrep. 2022;7(23):61–71.
- [46] Jubaidah S, Zulkarnain MR. "Penggunaan google sites pada pembelajaran matematika materi pola bilangan smp kelas viii smpn 1 Astambul." Lentera J Ilm Kependidikan. 2020;15(2):68–73.
- [47] Farida A, Indah RP. "Pendampingan Optimalisasi Google Site Sebagai Media Pembelajaran dan Promosi pada KUMON Ngringo Palur." Batuah J Pengabdian Kpd Masy. 2021;1(2): 8–14.
- [48] AISYAH S. "PENGUNAAN GOOGLE SITE PADA PEMBELAJARAN IPS SEBAGAI UPAYA MENINGKATKAN MOTIVASI BELAJAR SISWA KELAS 4 PADA MIN 1 MURUNG RAYA." in Fakultas Tarbiyah dan Ilmu Keguruan (FTIK) IAIN Palangka Raya PENGUNAAN. 2022;1(1):2464–2476.
- [49] Haidir H, Arizki M, Fariz M. "An innovation of islamic religious education in the era of the industrial revolution 4.0 in elementary school." Nazhruna J Pendidik Islam. 2021;4(3):720–734. doi: 10.31538/nzh.v4i3.1688.
- [50] Dariyadi MW, Mahliatussikah H, Fauzan M. "Pemanfaatan Google Site Sebagai Media Pembelajaran Bahasa Arab." J Tifani. 2021;1:65–74.
- [51] Aminah N, Amami S, Wahyuni I, Rosita CD. "Pemanfaatan Teknologi Melalui Pelatihan Penggunaan Aplikasi Google Site bagi Guru MGMP Matematika SMP Kabupaten Cirebon." Bima Abdi J Pengabdian Masy. 2021;1(1):23–29. doi: 10.53299/bajpm.v1i1.35.

- [52] Ciung MV, Istiqomah, Taufiq I. "Pengembangan media pembelajaran matematika berbasis google sites pada materi deret aritmatika." *Circ J Pendidik Mat.* 2022;02(01):41–50.
- [53] Husniyah R, Widiatsih A, Fajarisman, Kunrozazi, Kurniawan N. "Pengembangan Website Menggunakan Google Sites Materi Produksi Pada Tumbuhan dan Hewan Untuk SMP/MTs Pada Masa Pandemi COVID 19." *Educ J J Educ Res Dev.* 2022;6(1):47–58:
- [54] Pardede P. "Integrating the 4Cs into EFL integrated skills learning." *J English Teach.* 2020 March;6:71–85.
- [55] Hariadi S. "Pengembangan Multimedia Teks Wawanrembug Berbasis Blended Learning pada Siswa VIII." *J Didakt Pendidik Dasar.* 2020;4(1):39–58. doi: 10.26811/didaktika.v4i1.125.
- [56] Pubian YM, Herpratiwi. "PENGUNAAN MEDIA GOOGLE SITE DALAM PEMBELAJARAN UNTUK MENINGKATKAN EFEKTIFITAS BELAJAR PESERTA DIDIK SEKOLAH DASAR." *Akad J Teknol Pendidik.* 2022;163–172.
- [57] Broto AH, Miarsyah M, Ristanto RH. "G-Site development as teaching materials and science learning media to improve junior high school student learning outcomes on plant structure materials." *Abjadia.* 2021;6(1):20–29. doi: 10.18860/abj.v6i1.11398.
- [58] Rahiem MDH. "Technological barriers and challenges in the use of ICT during the COVID-19 emergency remote learning." *Univers J Educ Res.* 2020;8(11B):6124–6133. doi: 10.13189/ujer.2020.082248.
- [59] Abivian M. "Pemanfaatan Media Google Site dalam Kegiatan Administrasi BK Di SMAN 1 Sumberjaya." *Prophet Prof Empathy Islam Couns.* 2021;4(2):209–220.
- [60] Nurlatifah HS, Rahmawati S, Rofi'ah H, Norra BI. "Analisis Implementasi Bimbingan dan Konseling Terhadap Tiga Sekolah di Jawa Tengah dengan Status Pembelajaran Daring." *J Pembelajaran, Bimbingan, dan Pengelolaan Pendidik.* 2021;1(11):879–887. doi: 10.17977/um065v1i112021p879-887.
- [61] Saputra A, Kamaruzzaman, Hartinah G. "Model Layanan Bimbingan Dan Konseling Berbantuan Aplikasi Google Site." *BIKONS J Bimbing Konseling.* 2022;2(1):17–26.
- [62] Hermawan R. "Inovasi Layanan Bimbingan dan Konseling Masa Pandemi Covid 19." *CoutionJorunal Couns Educ.* 2022;3(1):28–40.
- [63] Setyawan B. "Pengembangan Media Google Site dalam Bimbingan Klasikal di SMAN 1 Sampung." *Nusant Res J Hasil-hasil Penelit Univ Nusant PGRI Kediri.* 2019;6(2):78–87. doi: 10.29407/nor.v6i2.13797.

- [64] Sarman F, Asradi. "Pendampingan pembuatan menggunakan google sites dalam membantu pelayanan jarak jauh." *Connect Jirmnal Pengabd Kpd Masy.* 2022;2(1):29–34.
- [65] Mustika RAD, Purwoko B. "PENGEMBANGAN MEDIA GOOGLE SITES PADA LAYANAN INFORMASI UNTUK MENINGKATKAN PEMAHAMAN BAHAYA PENYALAHGUNAAN NARKOBA." 2022;12(4):1041–1050.
- [66] Ali RM, Hermanto H, Erviana VY. "Pelatihan Pengembangan Portofolio EElektronik Siswa bagi Guru SMA Muhammadiyah 3 Yogyakarta." *Pros Semin Nas Has Pengabd Masy Univ Ahmad Dahlan* 2021. 2021;2(i):755–762.
- [67] Lidya A, Milfayetty S, Purba S, Lubis MJ. "PENGEMBANGAN MODEL MANAJEMEN PELATIHAN PENINGKATAN KOMPETENSI PROFESIONAL GURU BK TERINTEGRASI AKUN BELAJAR.ID." *J Syntax Admiration.* 2022;3(6):833–844.
- [68] Yuliani RA, Yasmi F, Adison J. "Model Bimbingan Klasikal dengan Menggunakan Media Cyber Counseling (Google Sites) dalam Perkembangan Pemilihan KArier Peserta Didik Kelas IX di SMP Negeri 5 Sungai Lilin Kabupaten Musi Banyuasin." *Berajah J.* 2022;2(2):321–328.
- [69] Sridhara RN, Raghunandana M. "Best practice of Google site usage in Noble Group of Institutions Library and Information Center." *Libr Philos Pract.* 2019;1–13.
- [70] Aulia D, Riefani MK. "Google Site as a Learning Media in the 21st Century on the Protista Concept." *J Biol Inov Pendidik.* 2021;3(3):173–178.
- [71] Musawarman et al. "Workshop pemanfaatan google site untuk pembelajaran berbasis digital e-learning di sma n 1 wanayasa." *BERNAS J Pengabd Kpd Masy.* 2022;3(3):441–447. doi: 10.31949/jb.v3i3.2742.
- [72] Japrizal J, Irfan D. "Pengaruh Penggunaan Media Pembelajaran Berbasis Google Sites Terhadap Hasil Belajar Siswa Pada Masa Covid-19Di Smk Negeri 6 Bungo." *Jav J Vokasi Inform.* 2021;1(3):38–44. doi: 10.24036/javit.v1i3.33.
- [73] Hasanah U, Tenri A, Rivai O, Ibrahim A, Dosen K, Pembelajaran M. "PELATIHAN MEDIA PEMBELAJARAN BERBASIS DIGITAL SEBAGAI PENINGKATAN KOMPETENSI DOSEN DIGITAL-BASED LEARNING MEDIA TRAINING AS AN INCREASE IN LECTURER COMPETENCE." *KHIDMAH J Pengabd Kpd Masy.* 2022;2(2):151–160.
- [74] Suryani A, Soedarso S, Prasetyowati N, Trisyanti U. "The multi-dimensions of Teachers' ICT learning." *Res Dev J Educ.* 2021;7(1):11. doi: 10.30998/rdje.v7i1.7642.
- [75] Tresnawati NMA. "Inovasi Pembelajaran Bahasa Bali di Masa Pandemi Covid-19 dengan Pemanfaatan Media Pembelajaran Google Site Ni Made Ari Tresnawati Artikel Info Abstrak." in *Prosiding Seminar Nasional dan Call for Papers.* 2021 September. p. 12–20.

- [76] Utami NW, Juliana IG, Putra E. “Optimalisasi Media Pembelajaran Inovatif Dalam Rangka Revolusi Pendidikan 4 . 0 Bagi Guru di SMAN 1 Gianyar.” *J Karya Abadi Masy Univ Jambi*. 2022;6:212–218.