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Development of learning media Indonesian Web-Based platform using Google Sites

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ABSTRACT

The Indonesian language learning paradigm shifted after the Covid-19 outbreak. The lack of learning media that can handle all learning material and instructors' poor mastery of technology both contribute to this problem. Building a web-based learning platform using Google Sites and the data from the Observation Report Text is one solution to this problem. The study's goals are to create a procedure for developing learning media on a web platform, to establish whether or not such media is feasible, and to identify the variables enabling and limiting the use of Google Sites. R&D (Research & Development) development principles and the ADDIE model inform the study's methodology. Twenty-one kids were randomly selected from Grade X at IPS SMA Pelita Cemerlang Pontianak. Methods of gathering information include keeping records, conducting surveys, and keeping careful notes.The media professionals who checked out https://sites.google.com/bindoxpelitacemerlang gave it an 82.44%. The validation by subject matter experts is at 96.97%, while the validation by end users is at 88.9%; both scores place the material in the 'Very Eligible' category. Black-box testing tools, stress testing, installation/lauch testing, alpha testing, and 'passing' beta testing are used to determine Google Sites' viability. High accessibility, students' ability to study independently, opening links, dynamic time, extra learning resources, information search columns, and readily updatable content and materials are all reasons to use Google Sites. There are several limitations, such as a lack of personalization, the need for an active internet connection, concerns about privacy and security, and the presence of broken connections.

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INTRODUCTION

The Covid-19 virus, which first appeared in Wuhan, China, has spread over the world and remains a serious issue. Millions of individuals throughout the globe have been infected, and a small percentage of them have become victims. The educational system has been crippled by the Covid-19 epidemic. As the nation's educational system braces for the assault of an unanticipated epidemic, it may as well be in a state of suspended animation.

Circular No. 4 of 2020 on the Implementation of Education Policy During the Emergency Period of the Spread of Corona Virus Disease (Covid-19) issued by the Minister of Education and Culture (Kemendikbud) of the Republic of Indonesia also prohibits face-to-face instruction. This indicates a new paradigm shift, wherein learning that was formerly conducted in person has shifted to online forums or virtual gatherings. Approximately 68,729,037 million students are using Distance Learning (PJJ), and more than four million instructors are working from home, according to data from the 2020 Ministry of Education and Culture (Pusparisa, 2020).

Databooks performed a poll in 2020 among the more than 64 million pupils throughout Sabang and Merauke, and found that 66% of them felt uneasy about doing online schoolwork from home because of the Covid-19 epidemic. Eighty-seven percent of these kids have shown interest in going back to school (Farah Vania, 2022). Students' inability to learn and become proficient is exacerbated by the fact that they are only given tasks and content. This occurred because 38% of students who participated in the survey stated they wished to go back to school to resume their regular study routine, citing a lack of teacher direction as the primary reason for the difficulties they had encountered.

The dynamics of extremely major changes in the learning system are to blame for the difficulties faced by educators, particularly instructors. The magnitude of this shift was unexpected, and no preparation was made (Malahati & Prastowo, 2022). Teachers are left speechless by this swift and unexpected shift. The failure of educators to adapt to a new learning paradigm, including the need to become proficient with cyber technology. The state of education is made even worse by teachers who lack the skills to use cyber technology in the classroom (Syamsuri, 2021).

Technocrats (technical stutterers) are a common term for untrained educators who struggle to integrate technology into the classroom. In 2020, just 46% of educators met minimum standards for technological competence as determined by the Ministry of Education and Culture. This UNESCO-adapted map of technical competency spans four tiers of proficiency (Kusnandi, 2019). Literacy in Information and Communication Technologies (ICT) is covered at the first level. Teachers at this level have a firm grasp of how to implement and manage educational technologies. At the third level, instructors may make up their own lessons. On the other hand, in the fourth level, educators might earn the opportunity to train other educators. These results demonstrate that educators have a poor level of technological literacy. The lack of enthusiasm, training, shyness, and initiative to study independently means that even very elderly professors dominate the statistics.

Because of the shift from fully online classrooms to hybrid and flipped learning after the pandemic, it is essential that educators have a firm grasp of technology. The limitations of online education, hybrid instruction, and flipped classrooms are felt throughout the curriculum, including Indonesian language classes. Agnes Tasya, S.Pd., an Indonesian language teacher at SMA Pelita Cemerlang Pontianak, was interviewed and her experiences teaching during and after a pandemic were found to be particularly challenging. This problem arises because educators don't yet have a firm grasp on how to effectively use cyber technology in the classroom. WhatsApp, Google Classroom, and Google Meet are just some of the learning assistance apps utilized by educators thus far. However, at now, these programs are standalone and cannot communicate with one another.

Teachers' inadequate cyber-technology expertise is a big factor in why most pupils aren't engaged in these classes (Husain & Basri, 2021). The instructor's role in the learning process is restricted to giving online lectures using Google Meet. Students get bored when lectures linger for hours on end. Students pay little attention and leave quickly. After 15 minutes, many students stopped using the virtual forum's audio and video capabilities. This suggests that pupils are becoming disinterested in school as a result of its repetitious nature.

Google Classroom and similar virtual containers are a great resource for educators gathering student work into portfolios. The problem is that some students may miss important messages due to the heavy daily volume of content posted by professors (Santosa et al., 2020). Due to the large number of classes and the corresponding number of courses, students in high school sometimes fail to notice important bulletins or notices posted in online forums. As a result of teaching so many courses aligned to the 2013 Curriculum, instructors may find it challenging to offer timely feedback on student work, even while checking for errors and misunderstandings (Fahrina et al., 2020).

After the epidemic, schools adopted a hybrid model that included online and offline instruction but still faced challenges. Blackboards are ineffective learning material for teachers since they help primarily students in the classroom, whereas online students do not perceive it well. Online students' focus is muddled since the blackboard writing is hard to see and they often lose touch with the instructor, making it harder still to read (Naibaho & Sitompul, 2023).

Teachers are challenged to be innovative and creative in packaging learning due to factors such as dense content, limited learning time, and a lack of media that gathers and makes learning attractive to pupils. To properly package learning Indonesian inside the Observation Report's textual content, the appropriate medium is essential. Learning materials optimized for use on digital platforms are another kind of media that may and should be created in the midst of a pandemic.

Web platforms, as defined by the World Wide Web Consortium, are digital repositories that consist of a website and associated pages. As the pace of cyber development increases, so does the expectation that information be readily available and correctly presented. The web platform is used to speed up and improve the usability of the web throughout its development. Because of its usefulness, there are now many websites containing all sorts of information, including teaching materials that may be utilized in the event of a pandemic (Firmansyah, 2015).

Google Sites is a free resource that may be used in the classroom by both instructors and students, so long as they have access to internet-connected devices. In addition, the government of Indonesia has allocated Rp. 7.2 trillion for use by students, instructors, and professors in areas with high-quality access to the internet. Each student is allotted a total of 35GB each month, of which 5GB may be used for non-academic purposes and 30GB can be used for academics. Government assistance quotas are contributing to greater cost effectiveness (Bhagaskara et al., 2021).

Not only does the high-quality feature save money, but it also gives educators exciting new ways to tailor lessons to their students' needs. Google Sites allows educators to set up a memorable URL and populate it with engaging materials. Photos, movies, presentations, quizzes, forms, references, files, calendars, and other insertable stuff (Amina et al., 2021). Sites may also be integrated with other Google services, such as Gmail, Drive, Classroom, Youtube, Forms, Spreadsheets, Maps, Calendar, and more. Teachers may do a lot of new and exciting things when they utilize the Google Sites platform. Learning flows, announcement calendars, practice questions, student workbooks, quizzes, and survey forms are just few examples of the many possible shapes these innovations might take. As a result, there will be more of it, and it won't be constrained by time or distance.

In order to provide for the demands of educators, a web-based learning medium utilizing Google Sites for the purpose of learning Indonesian was created. Teachers in Indonesia must also deal with the complications of the 4.0 Industrial Revolution and the pandemic-related changes to

the country's educational system. According to interviews conducted with educators at SMA Pelita Cemerlang Pontianak in Indonesia, meeting the expectations of the curriculum and media that might meet students' requirements, such as varied and engaging material, was challenging. To help students achieve Basic Competency (KD) in the 2013 Curriculum without doing fieldwork, it is necessary to include media into the content for Text Observation Reports. Pay close attention to the content and language use when you compose the wording of the observation report (KD 4.2).

Based on the description above, the problems in this study: (1) What is the process of developing web platform-based learning media using Google Sites in learning Indonesian? and (2) What are the supporting factors and constraints in developing web platform-based learning media using Google Sites in learning Indonesian? Sonny Ronny Muntu, a master's student at Makassar State University in 2017, has done some preliminary study in this area. "Development of Web-Based Learning Media in Class X Cyber Simulation Subjects in Vocational High Schools" was the title of his thesis. The purpose of this research is to identify the characteristics of learning media resources available online for the Cyber Simulation course at SMK Negeri 8 Makassar's tenth-grade level, and to create such resources so that they may be used effectively in the classroom. Research and development (R&D) methods were used in the study to create e-learning content for use on the web. Analysis, Planning, Action, and Review (ADDIE) is the development approach used. Based on the validator's assessment of the category's applicability, presentation, substance, and material linkages, this research concludes that it is a legitimate one. The study of student replies shows that the percentage is more than 70%, and the results of the validation of the handbook demonstrate a highly valid category from the perspectives of format, language, and content (Fitriyah et al., 2021).

Second, "Application of Schoology-Based E-Learning Media to Increase Activities and Learning Outcomes of Business and Energy Materials in Class XI SMA N 10 Jambi City" by Tugiyo Aminoto and Hairul Pathoni from Jurnal Sainmatika Vol 8 No. 1 of 2014 in the Physics Education study program at Jambi University FKIP. This research employs interactive Schoology learning material to get students to communicate their views and ideas that may be applied everywhere. This research uses Schoology-based e-learning media to boost student participation and learning in class XI SMA 10 Jambi City on business and energy. Three cycles were used for this class action research (CAR) study. In cycles 1 and 2, schoology media increased class XI SMA Jambi City students' activity and learning outcomes by 34.84% (cycle I 53.43%, cycle II 82.62%), 32% (cycle I 62.81, cycle II 82.81), and 38.84% (cycle I 14 students, cycle II 27 students). The 2021 Indraprasta University PGRI study "Development of Website-Based Indonesian Learning Media" by Fajar Sukma Pratama. This study was published in Discourse: Journal of Indonesian Language Education Vol. 4, No. 2. This project aims to build educational media for online learning during a pandemic and learning aids to motivate class X high school students. The FOUR D Model and ADDIE Model were utilized to construct Indonesian language learning media based on the website utilizing qualitative descriptive study. This study produced a Wordpress prototype product as a learning medium for Class X Indonesian in semester 1 of SMA level using the ADDIE model (Branch, 2009) and supported by Ms. Office, Adobe Photoshop, Google Application, and Youtube. The learning medium includes Observation Reports, Expositions, Anecdotes, and Folklore. This study produced a Wordpress prototype product as a learning medium for Class X Indonesian in semester 1 of SMA level using the ADDIE model (Branch, 2009) and supported by Ms. Office, Adobe Photoshop, Google Application, and Youtube. The learning medium includes Observation Reports, Expositions, Anecdotes, and Folklore. This study produced a Wordpress prototype product as a learning medium for Class X Indonesian in semester 1 of SMA level using the ADDIE model (Branch, 2009) and supported by Ms. Office, Adobe Photoshop, Google Application, and Youtube. The learning medium includes Observation Reports, Expositions, Anecdotes, and Folklore (Aminoto, 2014).

The Implication studies show that there are parallels between the usage of various media, particularly web-based ones and those associated with e-learning. The creation of a media platform in Google Sites is, nevertheless, a distinguishing feature, strength, and originality of this study. Furthermore, the ADDIE development model R&D research design is used in the learning of

Indonesian with a concentration on textual material on observation reports in preparation for a pandemic.

RESEARCH METHODOLOGY

This study applies the Research & Development (R&D) model in developing an educational product. R&D in this context is a process for designing, developing, and validating new design models or products. Based on Richey and Klein (2007), this model focuses on the development and validation of the model and the process itself(Kamal, 2019). Borg and Gall (1983) explain that R&D is a process for developing and validating educational products (Yuliani & Banjarnahor, 2021). The main purpose of this method, as revealed by Sukmadinata (2008), is to produce new products or improve existing products (Prastyo & Hartono, 2020). Sugiyono (2016) also added that R&D methods are used to produce certain products and test their effectiveness (Sugiyono, 2013).

In this investigation, we used the R&D approach to create instructional materials for use on the Google Sites online platform. The ADDIE paradigm, which comprises of analysis, design, development, implementation, and evaluation, was used in the creation of this instructional material. The ADDIE framework was selected to enhance educational material for use in online, hybrid, and flipped classrooms. The creation of this educational medium has yielded an Indonesian language learning platform that may be put to good use by educators and their students, particularly in light of the technical problems of the present.

Unit testing is the first step in software engineering when it comes to testing. These tests examine the smallest possible parts of a program, such as individual methods or object classes. To further guarantee the system's multi-application and database functionality, Integration Testing is performed. System testing is the process of checking the functionality of the whole system. Last but not least, Acceptance Testing includes actual users of the system to guarantee that it performs as expected.

Both black-box and white-box techniques are used in this test, probing the program's outside and inner workings respectively. Web-based learning media systems' dependability, interoperability, and usability were also tested. To further assure the usability of the instructional materials for their intended audience of students, alpha and beta testing are also conducted.

RESULTS AND DISCUSSIONS

Gerlach stated that "learning media has a very broad scope, which includes humans, materials or studies that build a condition that enables students to acquire knowledge, skills or attitudes"(Gerlach, 1971). That is, instructional media has an impact not only on acquiring specific knowledge and skills in mastering the media, but also changing attitudes. In this case, "learning media serves as a tool to provide incentives for students so that the learning process occurs"(Briggs, 1970).

Learning media during the pandemic strengthened teachers in delivering material to students. The media uses a set of technology and the internet which is invisible to the eye, but can feel the benefits. This statement is supported by(Sumiharsono & Hasanah, 2017) which states that "learning media has the function of visualizing something that cannot be seen or is difficult to see so that it appears clear and can determine understanding or enhance one's perception".

*web platforms*is a container for website pages that have interrelated content in which there are elements of text, images, videos, or other elements stored on a server and can be accessed via the internet network. The web platform is dynamic, meaning users can change or manage templates and content as needed. Based on this, it is clear that this web platform can store a lot of content that can be customized and manipulated to stimulate students in learning (Nurfitrianto, n.d.).

For those who are already familiar with Gmail, Google has developed a platform tool called Google Sites that makes website creation a breeze. Teachers and other users may take use of the many free tools that have been developed specifically with e-learning in mind. Media such as photos, animations, videos, recordings of formulaic learning, interactive quizzes, student worksheets, essays, scripts, ppt materials, portfolios, and student learning book files are all employed as learning media on Google Sites in this investigation. In addition, it has a comprehensive learning flow that allows students to participate in each virtual face-to-face meeting with confidence and a sense of independence thanks to its convenient accessibility. This means that anybody, and particularly educators, may benefit from using Google Sites in the classroom. Access that is both quick and free may be put to good use by filling up gaps in educational material.

The Process of Developing Platform Web-Based Learning Media Using Google Sites

The process of developing a web platform-based learning media using Google Sites applies an R&D development procedure with the ADDIE model. ADDIE consists of five stages, namely Analysis, Design, Development, Implementation and Evaluation. The ADDIE development procedure refers to the Multimedia-Based Instructional Design Process development procedure according to(Lee & Owens, 2004). This procedure was chosen because it is complex and holistically able to describe the Google Sites development process that is systematic, rational, instructional and essential. The following is the procedure for the process of developing learning media in research that has been carried out by researchers.

Assessment/Analysis, Analyzing and evaluating the content of the Observation Report Text is the first step in creating learning media in Google Sites. Class X of SMA Pelita Cemerlang Pontianak is looking to fine-tune its learning materials at this level. In addition, the necessary hardware and software are identified, and a thorough analysis of the activities involved is performed. At this point, researchers undertake a need assessment and front-end analysis.

Design, Planning for the creation of Google Sites will go on to the design phase based on preliminary data acquired during the assessment/analysis phase. Researchers have employed need assessment and front-end analysis, which comprises audience analysis, task analysis, technology analysis, media analysis, and extant-data analysis, to create effective media. During this stage of the research process, the researcher creates a timetable for the development of activities, plans, goals, instruments, and other content.

Development, The development phase follows the completion of the design phase. At this point, the researcher has developed a storyboard, which is only a framework for the eventual full-fledged web. The information to be learned is gathered and set in advance. Then, the Google Sites' layout is customized for education purposes, and all material is integrated and entered there. Because it is built on a content management system, researchers have complete creative control over the design and content filling processes. Google Sites allows researchers a great deal of leeway in terms of content, aesthetic, database, and structure.

Google Sites, which is built on the CMS platform, is preferred by researchers because it presents a more unified front end. In addition, web management expertise is not required for researchers. It simply takes getting used to using it regularly. Since the security is kept in place, the offered material is also highly rich and may be released without the intervention of other parties. All three tiers of Google Sites' tool features—the best, the average, and the best—are intuitive and easy to use. The researcher settles on seven primary menus after considering the benefits and comprehensiveness of Google Sites capabilities. This Google Sites media has seven different navigation options.

Implementation, After a Google Site is launched, it enters the implementation phase, where end users, in this case pupils in SMA Pelita Cemerlang's IPS tenth grade class, utilize it. Google Sites and all of its functionalities are put to use by students. Each article provides a fresh perspective that is at once concise and in-depth. In addition, all of the pages and content may be

utilized as intended, down to the integrated connections that allow for things like online lessons on Google Meet and private discussions with instructors over WhatsApp. Google Sites is intuitive for students since it was designed with Observation Report Text instruction in mind. Text, video, forms, portfolios, and educational resources are all conveniently accessible in one central location.

In this implementation phase, validation is carried out on the end user, namely students. Students in this study played a role in beta testing. Beta testing can only be done when media experts and material experts have validated it. After being validated, the students as a sample use learning media in the form of a web platform based on Google Sites. The students who played a role in the beta testing were 21 students of class X IPS SMA Pelita Cemerlang Pontianak in the subject of Indonesian, especially the text material of the observation report.

The students tested the product to determine the feasibility of learning media by filling out a questionnaire. The questionnaire that was made into an instrument contained 20 statement items as measured by a Likert scale. The statements are developed based on the theory(Lewis & Booms, 1983) about Computer Usability Satisfaction Questionnaires. Beta testing is given to students in the form of filling out a questionnaire containing 20 statement items filled with actual conditions. After the students tried using Google Sites, then filled out the questionnaire on a Likert scale of 1-5, the score obtained was 1778. The following shows a tabulation of the data obtained by the researcher based on the questionnaire filled in by the students.

Evaluation, If there are issues with the executed steps, they are fixed during the assessment phase. Several issues with the newly formed Google Sites were discovered during the installation process and required to be resolved. The implementation of learning with Google Sites involves ongoing study and development. Not all total gatherings are problematic. Minor issues that still need fixing despite being common. Fixes have been made to the incorrectly written example text of the Observation Report. In addition, researchers quickly and simply repaired this, modified it in the dashboard, and published so that the updated page displayed.

Scholarly work and, if required, content updates continue. The assignment due dates and any new information related to studying Indonesian might be announced, for instance, using the notifications function. Then, too, with portfolio records kept by students. If the file has been edited and the student has been provided feedback, the researcher will upload it to the 'Downloads' section of the site. The same is true for recorded demonstrations of previously administered tests and lectures. The researcher instantly uploads the lesson's materials once class is over so that students may keep learning and review them whenever they choose.

Feasibility of Platform Web-Based Learning Media Using Google Sites

Testing and evaluation of multimedia learning media is carried out to assess its feasibility. This evaluation involves several aspects, namely software engineering, learning design, and visual communication. The stages of feasibility testing on the software engineering aspect consist of four stages adapted from the software testing strategy by (Pressman, 2019). These stages include unit testing, integration testing, system testing, and acceptance testing.

Testing Units, Researchers do unit testing (unit testing) at several points during the development lifecycle of a Google Sites webpage. White-box testing is used for this particular unit test. In this case, functionality is being evaluated. This implies that everything on the site is accessible and works as intended. Researchers and developers use trial and error to check the functioning of every component of the material they create. Researchers ensure that all Google Sites material can be seen, accessed, and utilized in their preferred context.

Integration Testing, Validation of Integrationsexperimentation with Google Sites's infrastructure, workflow, and functionality conducted by academics. The goal of this evaluation is to uncover any flaws in the system or the created sites' behavior. Black-box testing is used to ensure proper operation. This is a black-box table used to verify the program's functioning in light of the web's functional requirements.

System Testing, Checking the SystemMedia hosted on the Google Sites web platform was subjected to stress testing to ensure its dependability and installation/launch testing to ensure it was compatible with the platform. Developed Google Sites undergo this evaluation to ensure that their features continue to be of the highest quality. An examination of Google Sites' installation/launch testing and stress testing is shown below.

First, Stress Testing, tolerance tests Web quality is tested on Google Sites with the use of the Webserver Stress Tool. When the website is subjected to severe loads, such as very high user traffic, repetitive requests, or overall heavy loads, the application is able to reveal its limits and flaws. Ten participants were tested for five minutes utilizing the RAMP methodology. The test's goal is to determine how well a system handles loads of simultaneous users and how many error messages they generate. In the picture below, the test results are shown graphically for your perusal.

Second, Installation/Launch Testing, in this study, we installed and launched a Google Site to make sure users of https://sites.google.com/view/bindoxpelitacemerlang can see the site correctly on their chosen device. This test runs under a variety of settings, where the software and hardware may be different from one another yet still render the same website.

The Google Sites platform used to create the site allows for compatibility with a wide range of devices and browsers. Devices running Android or iOS, or several desktops/laptops running various versions of Windows, may all view the examples. It's also accessible through a variety of browsers. This research used five desktop web browsers for installation/launch testing: Google Chrome, Mozilla Firefox, Microsoft Edge, Opera, and Waterfox. In addition, Google Chrome, UC Browser, Opera Mini, Firefox Fast & Private Browser, and Microsoft Edge Acceptance Testing are all tested on mobile devices.

Acceptance testing, Alpha and beta testing were used in this study. Researchers in the field of educational media production conduct alpha and beta tests on students in a safe, supervised setting. That's because the demands of the area inform how the learning materials are maintained, generated, and developed. (1) Alpha Testing**,** This study tested online platform-based learning resources developed using Google Sites. This test was evaluated by two media and two material specialists using a questionnaire. The questionnaire uses Likert scale statements. Two media professionals, Ivan Mustaqim, S.Kom and Rangga Saputra, A.Md., Kom. The questionnaire evaluation includes 30 claims based on usability, functionality, and visual communication. The average of these three factors is 82.44% feasibility. Web platform learning media utilizing Google Sites is "Very Eligible". Two material specialists also exist. The first material expert, Dra. Anna Yuniarti, M.Pd., and Rusti, S.Psi., M.Pd., validated the 20-item questionnaire by focusing on learning design, content, language, and communication. The three aspects average 95.97%. Thus, Google Sites observation report language evaluated by material specialists is rated as "Very Eligible". **(2)** *Beta Testing***,** Beta testing must support media eligibility from material and media expert assessment. SMA Pelita Cemerlang class X IPS students try the Google Sites-based online platform learning material. The IBM Computer Usability Satisfaction Questionnaire is used to assess program usability (Lewis & Booms, 1983). *Google Siteson earned a score of 1778 from 20 assertions of the Observation Report text using a usability questionnaire. Students objectively fill in the predicted score of 2100 on a Likert scale. The "Very Eligible" category has 84.67% eligibility.*

Supporting Factors and Constraints in the Development of Platform Web-Based Learning Media Using Google Sites

Researchers confronted numerous challenges and help in creating Google Sites-based instructional material. The hypothesis supports this development (Rusman, 2011). Several supporting factors in this study include: (1) High and dynamic accessibility: Learning media using Google Sites can be accessed through various devices and overcomes performance problems when accessed by many users simultaneously. Team collaboration in the development of learning media is also possible., (2) Independent learning: The learning modules are provided with a flow that

allows students to study at their own pace. Learning materials are embedded in a "Downloads" subpage that students can access, enabling independent study, (3) Link building capabilities: Google Sites allows link building without the need for complex programming skills. Adequate internet connection supports the use of links, such as the contact teacher link that links directly to WhatsApp, (4) Dynamic learning times: Google Sites is used as a self-learning tool. Learning materials and activity flow are provided in the document and the "Learn Come!" subpage, allowing students to study the material at their own pace, (5)Additional learning resources: The integration of Google Sites with other Google services such as Google Drive, Google Docs, Google Meet, YouTube, and Jamboard provides rich learning resources according to learning needs, (6)Search engines to find information: Google Sites supports search engines, making it easy for students to find the information they want without having to navigate to subpages manually, and (4) Easy content and content updates: Google Sites can easily be updated with new content or other content as needed, including changes to page views.

However, the development of web platform-based learning media using Google Sites also encountered several obstacles: (1) Limited customization: The limited templates and design options provided by Google Sites mean that customization is limited. Limited storage capacity is also a challenge, although it's enough to store focus materials, (2) Internet connection dependency: Online learning requires a stable internet connection. Disruption of the connection can affect the access and functionality of learning media, (3) Privacy and security: Since it is cloud-based, privacy and security of user data is a consideration. However, researchers have taken steps to protect personal information, and (4) Error link: Some links in the learning media experience errors that hinder student access. This issue was resolved by replacing the broken link.

Web platform-based learning material developed utilizing Google Sites has several supportive aspects but also technical challenges. However, attempts have been undertaken to overcome these challenges and assure Indonesian online learning media efficacy.

CONCLUSION

In-depth findings were drawn from data analysis and discussion of the process, viability, supporting factors, and restrictions of establishing a web platform utilizing Google Sites. The Observation Report Text, available at https://sites.google.com/view/bindoxpelitacemerlang, describes learning media innovation and development in detail. This research concludes: (1) Development Process: resources and content specialists rated Google Sites for generating online platform-based learning resources "Very Eligible". This evaluation is backed by media experts' 82.44% eligibility and material experts' 95.97%. The user test reveals 88.9% eligibility. This learning medium also has seven primary menus with vital material, (2) viability Test: Unit, integration, system, and acceptability tests are conducted to assess learning media viability. The test tested numerous functioning features via trial and error and passed at all phaseses, (3) Supporting factors for platform-based learning media development using Google Sites include high accessibility, flexibility, link creation, dynamic learning time, fast websites, additional resources, machine information seekers, and ease of updating content and materials, (4) Constraints: Learning media creation challenges include restricted customisation, internet dependency, privacy and security concerns, and error-prone linkages.

Application of this study yields future improvement suggestions: (1) To create inclusive and innovative learning media, developers should cooperate with instructors and students to innovate layout and content, (2) Developers should utilize a Gmail account with more cloud storage for Google Sites, particularly for storing huge material like recorded instructional videos, and (3) To create successful and targeted instructional media, developers should reflect on supporting elements and restrictions identified during study.

The study's primary focus is on the technical development of the web-based platform. It does not extensively address the quality, relevance, or pedagogical aspects of the learning content

itself, which can significantly impact the platform's effectiveness as an educational tool. Future research should address inclusivity by exploring how to make the web-based platform accessible to a wider range of users, including those with disabilities and those in areas with limited internet access.

References

Aminah, N., Amami, S., Wahyuni, I., & Rosita, C. D. (2021). Pemanfaatan Teknologi Melalui Pelatihan Penggunaan Aplikasi Google Site bagi Guru MGMP Matematika SMP Kabupaten Cirebon. *Bima Abdi: Jurnal Pengabdian Masyarakat*, *1*(1), Article 1. https://doi.org/10.53299/bajpm.v1i1.35

Aminoto, T. (2014). Penerapan media e-learning berbasis schoology untuk meningkatkan aktivitas dan hasil belajar materi usaha dan energi di kelas xi sma n 10 kota jambi. *Sainmatika: Jurnal Sains Dan Matematika Universitas Jambi*, *8*(1), 221167.

Bhagaskara, A. E., Firdausi, A. K., & Syaifuddin, M. (2021). Penerapan Media Webquest Berbasis Google Sites dalam Pembelajaran Masa Pandemi Covid-19 di MI Bilingual Roudlotul Jannah Sidoarjo. *Jurnal Bidang Pendidikan Dasar*, *5*(2), Article 2. https://doi.org/10.21067/jbpd.v5i2.5541

Briggs, L. (1970). *Principles of constructional design*. New York: Holt Rinehart and Winston.

Fahrina, A., Amelia, K., & Zahara, C. R. (2020). *Minda Guru Indonesia: Pandemi Corona, Disrupsi Pendidikan, dan Kreativitas Guru*. Syiah Kuala University Press.

Farah Vania. (2022). *73 Persen Masyarakat Mendapatkan Informasi dari Media Sosial | Databoks*. https://databoks.katadata.co.id/datapublish/2022/08/20/73-persen-masyarakat-mendapatkan-informasi-dari-media-sosial

Firmansyah. (2015). *Pengembangan sistem informasi visual 3 dimensi berbasis web lokasi infrastruktur akademik: Studi kasus UIN Syarif Hidayatullah Jakarta* [Jakarta : Fakultas Sains dan Teknologi UIN Syarif Hidayatullah, 2015]. https://repository.uinjkt.ac.id/dspace/handle/123456789/29039

Fitriyah, I., Wiyokusumo, I., & Leksono, I. P. (2021). Pengembangan media pembelajaran Prezi dengan model ADDIE simulasi dan komunikasi digital. *Jurnal Inovasi Teknologi Pendidikan*, *8*(1), Article 1. https://doi.org/10.21831/jitp.v8i1.42221

Gerlach, V. S. (1971). *Teaching and media: A systematic approach*. Pearson Education. https://cir.nii.ac.jp/crid/1130282269551400448

Husain, B., & Basri, M. (2021). *Pembelajaran e-learning di masa pandemi*. Pustaka Aksara.

Kamal, M. (2019). RESEARCH AND DEVELOPMENT (R&D). *Al-Afkar : Jurnal Keislaman Dan Peradaban*, *7*(2), Article 2. https://doi.org/10.32520/afkar.v7i2.252

Kusnandi, K. (2019). MENGARTIKULASIKAN PERENCANAAN PENDIDIKAN DI ERA DIGITAL. *Jurnal Wahana Pendidikan*, *6*(1), Article 1. https://doi.org/10.25157/wa.v6i1.2023

Lee, W. W., & Owens, D. L. (2004). *Multimedia-based Instructional Design: Computer-based Training, Web-based Training, Distance Broadcast Training, Performance-based Solutions*. John Wiley & Sons.

Lewis, R. C., & Booms, B. H. (1983). *The marketing aspects of service quality" in berry, l., shostack, g. And upah, g.(eds.), emerging perspectives on services marketing, american marketing association*. Chicago.

Malahati, F., & Prastowo, A. (2022). Kesiapan Proses Pembelajaran Guru dan Peserta Didik Sekolah Dasar Masa Pandemi Covid-19: Dampak Penggunaan Whatsapp sebagai Media Pembelajaran. *Jurnal Basicedu*, *6*(4), 6917–6931.

Naibaho, J., & Sitompul, H. (2023). PROBLEMATIKA PEMBELAJARAN PPKn DI SMA NEGERI 1 SIBOLGA (STUDI KASUS MASA PANDEMI COVID-19). *Pancasila and Civics Education Journal (PCEJ)*, *2*(1), Article 1. https://jurnal.umsu.ac.id/index.php/jpce/article/view/13746

Nurfitrianto, A. (n.d.). *ANALISA WEB SERVICE, FUNGSI DAN MANFAATNYA*.

Prastyo, I. S., & Hartono, H. (2020). PENGEMBANGAN MEDIA PEMBELAJARAN DENGAN ADOBE ANIMATE CC PADA MATERI GERAK PARABOLA. *Phenomenon : Jurnal Pendidikan MIPA*, *10*(1), Article 1. https://doi.org/10.21580/phen.2020.10.1.6854

Pressman, R. S. (2019). *Rekayasa perangkat lunak*. ANDI.

Pusparisa, Y. (2020). *Pandemi Covid-19, Puluhan Juta Murid Belajar di Rumah | Databoks*. https://databoks.katadata.co.id/datapublish/2020/05/05/pandemi-covid-19-puluhan-juta-siswa-belajar-di-rumah

Rusman. (2011). *Model-model pembelajaran: Mengembangkan profesionalisme guru*. Rajawali Pers/PT Raja Grafindo Persada.

Santosa, F. H., Negara, H. R. P., & Bahri, S. (2020). Efektivitas Pembelajaran Google Classroom Terhadap Kemampuan Penalaran Matematis Siswa. *Jurnal Pemikiran Dan Penelitian Pendidikan Matematika (JP3M)*, *3*(1), Article 1. https://doi.org/10.36765/jp3m.v3i1.230

Sugiyono, D. (2013). *Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D*. Alfabeta.

Sumiharsono, R., & Hasanah, H. (2017). *Media Pembelajaran: Buku Bacaan Wajib Dosen, Guru dan Calon Pendidik*. Pustaka Abadi.

Syamsuri, A. S. (2021). *Pendidikan Guru dan Pembelajaran*. Nas Media Pustaka.

Yuliani, W., & Banjarnahor, N. (2021). METODE PENELITIAN PENGEMBANGAN (RND) DALAM BIMBINGAN DAN KONSELING. *QUANTA*, *5*(3), Article 3. https://doi.org/10.22460/q.v5i3p111-118.3051