

Interactive Learning Media based on Google Sites assisted by Wordwall on Social Science Learning regarding Economic Activities.

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Article info	ABSTRAK
Article History: Diterima: 15-09-2024 Disetujui: 05-11-2024 Keywords: Google Sites Wordwall Learning Outcomes Social Science Learning	Abstract: This research aimed to develop and test how effective and feasible interactive learning media based on Google Sites assisted by Wordwall on the content of IPAS subject matter of economic activities. This research employed the Borg & Gall model for research and development (R&D). The data collection technique uses test and non-test techniques through pretest, posttest, interview, observation, and questionnaire activities. The results showed an assessment from material experts 93.3%, media experts 98.3%, small class trials 91.1%, large class trials 93.08%, and teacher response 100%. The N-gain results show increased student learning outcomes pretest and post-test scores. This shows that interactive learning media based on Google Sites assisted by Wordwall is practicable and effective in learning IPAS material on economic activities in grade V. Abstrak: Tujuan penelitian ini adalah untuk mengembangkan dan menguji seberapa efektif dan layak media pembelajaran interaktif berbasis Google Sites berbantuan Wordwall pada muatan pelajaran IPAS materi kegiatan ekonomi. Penelitian ini menggunakan model Borg & Gall untuk penelitian dan pengembangan (R&D). Teknik pengumpulan data menggunakan teknik tes dan nontes melalui kegiatan pretest, posttest, wawancara, observasi, dan angket. Hasil penelitian menunjukkan penilaian dari ahli materi 93,3%, ahli media 98,3%, kelas kecil 91,1%, kelas besar 93,08%, serta respon guru 100%. Hasil N-gain menunjukkan terdapat peningkatan nilai pretest dan posttest hasil belajar siswa. Hal ini menunjukkan bahwa media pembelajaran interaktif berbasis Google Sites berbantuan Wordwall layak dan efektif digunakan dalam pembelajaran IPAS materi kegiatan ekonomi kelas V.
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INTRODUCTION

The advancement of information and technology in this digital age has affected every field, especially in education. Nowadays, technology has been widely used in the learning process because it can expand and develop student learning and support educational goals (A. Saputra, 2020). Educational technology is vital in improving learning effectiveness and helping students understand the material (Baikuna et al., 2024). The study results show that educational technology is essential for learning. Teachers can use technology to teach

and interact with students. Teachers can also use technology as learning media in the classroom so that the explanation of the material will be more exciting and not monotonous (Agustian & Salsabila, 2021). According to Akbar & Noviani (2019), some of the benefits obtained from the development of technology are that learning becomes more effective and exciting, helps teachers deliver material with visual/audiovisual media, creates a new atmosphere in learning, and the time used will be more efficient.

Many innovations in the field of educational technology have been developed, one of which is interactive learning media. Interactive learning media contains images, audio, video, text, and evaluation questions to help students understand the material (Pebriyanti et al., 2021). Interactive learning media functions as a means of conveying information to message recipients so that message recipients can understand the message well. Media may also aid in the process of learning by elucidating the meaning of the message (Afifah et al., 2022). In using interactive learning media, what needs to be considered is that students are encouraged to interact during lessons, not just pay attention to materials or objects (Harsiwi & Arini, 2020). Based on these statements, interactive learning media is a learning tool that contains content such as images, videos, and questions that encourage students to understand the material well.

Researchers at SDN Nongkosawit 02 have seen that students find science learning challenging because the material is extensive. Furthermore, the learning media used is still less innovative. Teachers only use learning media such as books and simple pictures, which causes students to be less enthusiastic about learning. This problem impacts student learning results.

Therefore, researchers will develop interactive learning media based on Google Sites with the help of Wordwall. Google Sites is a free web-building application with many exciting features for students to use (Utami, 2023). According to Wulandari et al. (2022) Google Sites have several advantages, including no need to pay, being searchable through Google, and flexibility. They can also store many files and include links from other applications. R. Saputra et al. (2023) stated that Google Sites can provide convenience and foster student enthusiasm for learning because the material presented is packaged attractively. In addition to using Google Sites, the learning media developed will contain practice questions presented using Wordwall educational games. Wordwall is an application that students can use as learning media, learning resources, or online-based assessment tools (Sari & Yarza, 2021). This application offers various games, such as crosswords, quizzes, random cards, and others (Pradani, 2022). Wordwall can be used and accessed quickly by students (Febrianti et al., 2023). Using Wordwall applications in interactive learning media based on Google Sites makes the process more innovative and exciting for students. Wordwall educational games can help liven up the classroom atmosphere through increased student participation, so adding Wordwall educational games to Google Sites learning media will further assist teachers in improving student involvement (Andira & Puspasari, 2023).

Previous research findings confirmed that learning media using web Google sites assisted by Wordwall were declared valid practical and potentially affected learning (Uleng et al., 2023). Therefore, this study aims to develop and evaluate the feasibility and effectiveness of interactive learning media based on Google sites assisted by Wordwall and focused on IPAS Class V learning material on economic activities. The novelty of this research lies in the material to be developed, namely, economic activities.

METHOD

The method used in this research is development (R&D). Development research is a process used to validate and develop products (Sugiyono, 2020). In this research, the product developed is interactive learning media based on Google Sites with the help of Wordwall. The model adopted the Borg & Gall model in the following order.

According to Borg & Gall, the development model has ten stages. However, researchers only carried out the eighth stage, usage trials. This is due to limited research time, making all ten stages impossible.

The research location is at SDN Nongkosawit 02, Semarang City. Six students were in the product trial stage, and sixteen were in the product use trial stage of the class V study. Test and non-test methods are used in data collection techniques through pretest, posttest, interviews, observation, and questionnaires. This research collected three types of instruments: 1) teacher and student needs questionnaire instruments, 2) expert validation instruments, and 3) questionnaire instruments for teacher and student responses to the media.

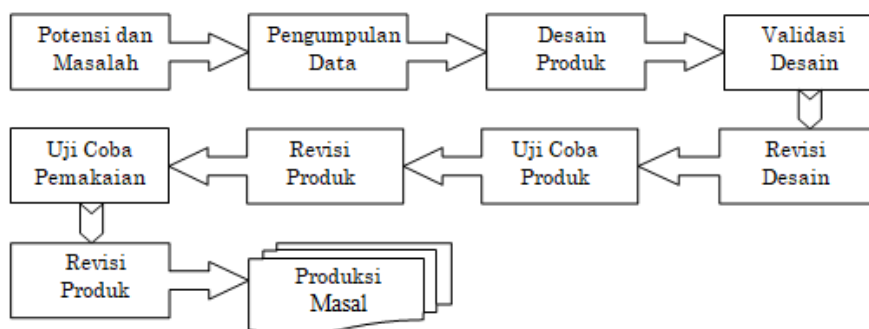


Figure 1. Borg & Gall Development Model (Sugiyono, 2017)

The data analyzed results from the cognitive domain in the form of pretest and posttest scores after using media during the social and science learning process regarding economic activities. Data analysis in this research consists of initial and final data analysis. The normality test was used in the initial data analysis. Meanwhile, the t-test and n-gain test were used in the final data analysis.

RESULTS

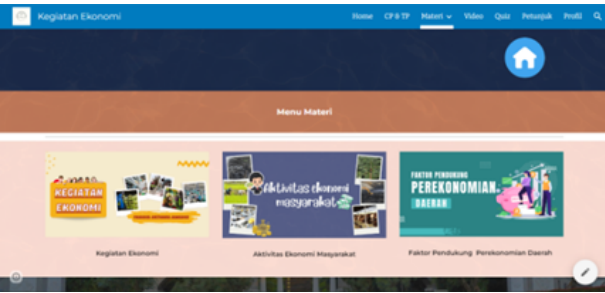
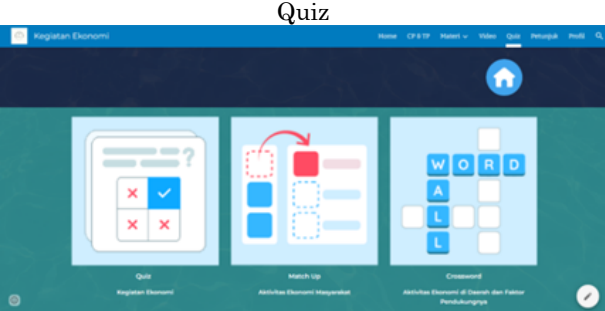
This research focuses on the development, feasibility, and effectiveness of interactive learning media based on Google Sites, assisted by Wordwall. Media development uses the Borg & Gall model, which researchers adapted into eight stages. The first stage is potential and problems. Based on observations and interviews, it is known that students find it difficult to learn science and technology because the material is too broad. Other than that, there is still less innovation in using learning media. Teachers only use media such as books and simple pictures, which causes students to feel less interested in learning.

The second stage is data collection. The data collected was a needs questionnaire distributed to teachers and students in class V. This needs questionnaire became a guide for researchers in developing interactive learning media based on Google Sites with the help of Wordwall.

The next stage is product design. What is done at this stage is 1) Determine the initial media design; 2) Determine the appearance of the media, such as choosing colors, backgrounds, fonts, and supporting images; and 3) Create a storyboard, as shown in Table 1.

Table 1. Storyboard

No.	Design	Description
1.	Initial Appearance	This page functions as an opening page before students enter other menus. This page contains material topic titles, prayers before studying, menu options, and motivational sentences for students.
2.	Learning Outcomes	This page will appear if students click the icon or the words 'CP & TP.' This page contains learning outcomes that students must achieve after participating in the lesson. For teachers, this page helps measure student achievement. Having CP and TP can show students what competencies need to be completed.

No.	Design Materials	Description
3.		This page is the most essential part of the entire media. On this page, students can access three material choices. These materials are sequential and related to each other. Supporting images can clarify students' understanding of each material.
4.		The video menu is an alternative for students who prefer learning with audio-visuals. Students can view the video as long as they are connected to the network and where they are connected.
5.		On the quiz menu, students can take three quiz forms: quiz, match-up, and crossword. Each quiz has its topic material. When students click on one of the quizzes, the page will be connected to the Wordwall. The addition of quizzes to Google Sites media measures students' level of understanding after studying the material.
6.		The instructions menu functions to guide students in accessing the media. In the instructions menu are examples of media displays if using a PC/laptop and displays if using a cell phone. Apart from that, there is a menu and material icon display. Information regarding the arrow button icons students can access when switching to other menus is provided.
7.		This page contains information regarding the product developer profile.

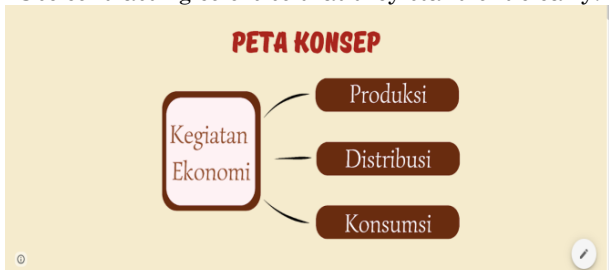
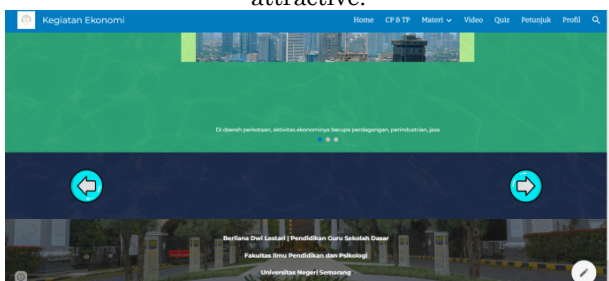
The fourth stage is design validation. Media validity testing is carried out at this stage. The validity test was carried out by experts, including media experts and material experts. The percentage of interactive learning media feasibility based on Google Sites assisted by Wordwall educational games by the media validator received a score of 98.3% (very feasible). In comparison, the material validator scored a percentage of 93.3% (very feasible). The validation results conclude that interactive learning media based on Google Sites assisted by the Wordwall educational game is worthy of testing in elementary schools.

Table 2. Product Validity Results

No	Trial Subject	Validity Results	Description
1	Media Expert Test	98,3%	Very feasible
2	Material Expert Test	93,3%	Very feasible

The fifth stage is design revision. At this stage, media improvements are based on suggestions and comments from media and material experts.

Table 3. Product Revision

No.	Before Revision	After Revision
1.	The use of color is less varied.	Use contrasting colors so that they stand out clearly.
		
2.	The button to go to the next page still uses text.	The text is replaced with symbols to make it look more attractive.
		
3.	The font used is not appropriate (footed letters: Times New Roman)	The font is replaced with letters without feet (Arial)
		

The sixth stage is product testing. The validated media was tested on class V students at SDN Nongkosawit 02, Semarang City. The product was tested on a small class of 6 randomly selected students. In the next step, researchers distributed response questionnaires regarding interactive learning media based on Google Sites with the help of Wordwall to teachers and students.

The seventh stage is product revision. The teacher and student response questionnaire results during product trials are used as a reference for revising the media if deficiencies still require improvement. Based on the teacher and student response questionnaire results, Google Sites-based learning media assisted by Wordwall is suitable for product trials.

The eighth stage is a product usage trial on 16 class V students. Learning uses interactive media based on Google Sites with the help of Wordwall. Activities include a pre-test before learning and a post-test after learning.

Table 4. Results of Teacher and Student Response Questionnaires

No	Subject	Validity Results	Description
1	Class Teacher	100%	Very feasible
2	Small Group Trial	91,1%	Very feasible
3	Large Group Trial	93,08%	Very feasible

Table 5. Product Effectiveness T-test Results (Average)

No	Subjek	Pre-test	Post-test
1	Small Group Trial	37.00	81.67
2	Large Group Trial	49.80	85.57

Table 6. N-gain Test Results

Class	Number of Students	Average		N-gain	Description
		Pre-test	Post-test		
Small Group	6	37.00	81.67	0,7380	High
Large Group	16	49.80	85.57	0,4420	Medium

From this data, it can be seen that students' pre-test and post-test scores are increasing. The increase in learning outcomes in small class trials can be seen from the results of the N-gain test, which obtained a score of 0.7380 in the high category. Meanwhile, in the large class test, the N-gain test results obtained a score of 0.4420, which means the increase in learning outcomes was in the medium category.

The conclusion is that interactive learning media based on Google Sites assisted by Wordwall has proven feasible and effective for learning science material for class V economic activities.

DISCUSSION

The results of data analysis show that Google Sites-based media, with the help of Wordwall, is effectively used in science and science learning in class V, especially in economic activity material. This can be seen from several factors. First, Google Sites-based learning media, assisted by Wordwall, is effective because it can improve student learning outcomes. A result obtained by students after participating in learning activities is called learning outcomes (Rahman, 2021). According to (Nurul Audie (2019), learning media is one way to improve learning outcomes and motivate students. A teacher should be able to choose the suitable media as much as possible because not all media can be applied to learning (Y. Wulandari et al., 2020). The material on Google Sites-based learning media assisted by Wordwall is presented per sub-chapter, with coherent and easy-to-understand explanations and appropriate supporting images. Using Google Sites-based learning media, assisted by Wordwall, will make students more comfortable understanding the learning material. The effectiveness of this media in improving learning outcomes can be assessed by comparing pretest and posttest scores. The data obtained showed increased scores after students used the Wordwall-based Google Sites learning media.

Second, Wordwall-based Google Sites learning media can arouse students' interest in learning. Interest in learning influences and impacts students' attitudes and behavior (Aprijal et al., 2020). Learning outcomes can be achieved when students have motivation and interest in learning (Anggita et al., 2023). Lusi in Rina Dwi Muliani & Arusman (2022) said that factors that influence interest in learning include internal and external factors. Internal factors, such as attitudes, attention, talents, and abilities, come from within students. Meanwhile, external factors come from outside the students, including the learning process, learning facilities and infrastructure, and surrounding environmental factors. Efforts should be made to encourage students'

interest in learning by using learning media (Husna & Supriyadi, 2023). Wordwall-based Google Sites learning media can arouse students' interest in learning because it provides a different experience than usual. During learning, students seemed more enthusiastic and interested when participating in learning using the Wordwall-based Google Sites learning media compared to when the teacher used ordinary books or picture media. Previous research also confirmed that interactive learning media based on Google Sites can increase students' interest in learning so that it can be effective for learning (Suryaman & Azizah, 2023). Using the Wordwall educational game as a form of practice questions also arouses students' interest in learning. Students can do three types of practice questions (Quiz, Match-up, and Crossword) with different materials.

From the explanation above, interactive learning media based on Google Sites assisted by Wordwall educational games is feasible and effective for learning because it can improve student learning outcomes and interest. Interactive learning media based on Google Sites assisted by Wordwall educational games has several advantages, including being easily accessed and operated by students, being used anytime and anywhere if connected to the internet network, and facilitating students' understanding of learning materials. This statement follows Arumingtyas (2021) statement regarding the advantages of Google Sites as learning media, one of which is that Google Sites can be accessed by students both at home and outside the house, and students are free to access material at any time. This development research implies that interactive learning media based on Google Sites, assisted by Wordwall educational games, can be used in IPAS learning material for economic activities grade V.

CONCLUSION

The results showed that Google Sites learning media based on Wordwall educational games received excellent qualifications. The results of data analysis through the N-gain test show an increase in the pretest and post-test values of student learning results. Therefore, it can be concluded that Google Sites learning media based on Wordwall educational games is feasible and effective for use in learning, especially in IPAS class V material on economic activities. Learning media Google sites based on Wordwall educational games can be a learning tool for students because it can improve learning results and student interest in learning.

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