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Digital Teaching Materials with Local Wisdom Based on Google Sites on the Topic of Plants, the Source of Life on Earth

Ni Made Dina Rahmawati[1*], I Gede Margunayasa[2], I Wayan Lasmawan[3]

[1,2,3] Prodi Pendidikan Dasar, Universitas Pendidikan Ganesha, Singaraja, Indonesia

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ABSTRAK

Penggunaan bahan ajar digital sangat minim digunakan di tingkat sekolah dasar. Penelitian ini bertujuan untuk menciptakan bahan ajar digital berkearifan lokal berbasis google sites *pada topik tumbuhan sumber kehidupan di bumi terhadap hasil belajar siswa kelas IV sekolah dasar. Jenis penelitian ini yaitu* RnD (Research and Development) *dengan model ADDIE. Pengumpulan data penelitian pengembangan ini menggunakan metode kuesioner dan metode tes. Uji coba produk dilaksanakan oleh uji ahli, guru dan siswa. Instrument penelitian berupa kuisioner validitas, kuesioner kepraktisan, dan tes hasil* pretest *dan* posttest*. Metode dan teknik analisis data yaitu analisis statistik deskriptif dan analisis statistik deskriptif kuantitatif. Analisis data menggunakan uji-t* yaitu paired samples test*. Hasil penelitian adalah validitas isi instrument melalui ahli materi 95,5% dan validitas ahli media 95,5 %. Kepraktisan oleh guru 97% digunakan serta kepraktisan oleh siswa 97,5% sehingga layak digunakan. Simpulan bahan ajar digital berkearifan lokal berbasis* google sites *dikembangkan dengan menggunakan website yang terdapat pada fitur* google *dapat dinyatakan valid, praktis dan efektif meningkatkan hasil belajar siswa kelas IV berdasarkan analisis data* pretest *dan* posttest*. Implikasi penelitian ini dapat meningkatkan ilmu pengetahuan, konsep dan teori tentang pengembangan bahan ajar digital.*

ABSTRACT

The use of digital teaching materials is minimal at the elementary school level. This research aims to create digital teaching materials based on local wisdom on Google sites, plants that are the source of life on Earth, and the learning outcomes of fourth-grade elementary school students. This type of research is RnD (Research and Development) with the ADDIE model. Data collection for this development research used questionnaire methods and test methods. Product trials are carried out by expert testers, teachers, and students. The research instruments include validity questionnaires, practicality questionnaires, and pretest and posttest results. Data analysis methods and techniques are descriptive statistical analysis and quantitative descriptive statistical analysis. Data analysis uses the t-test, namely the paired samples test. The research results were that the instrument's content validity through material experts was 95.5%, and the validity of media experts was 95.5%. Practicality is used by teachers at 97%, and practicality by students is 97.5%, so it is suitable for use. Conclusion: Digital teaching materials based on local wisdom based on Google sites developed using websites contained in Google features can be declared valid, practical, and effective in improving the learning outcomes of class IV students based on pretest and posttest data analysis. This research implies that it can improve knowledge, concepts, and theories regarding developing digital teaching materials.

1. INTRODUCTION

Education in the current Industrial Revolution 4.0 era has a great influence on the progress of a nation. Education is necessary for every human being because, with education, humans can gain knowledge, skills, and various experiences (Jensen & Konradsen, 2018; Sugawara & Nikaido, 2014; Surani, 2019). Education development and the Industrial Revolution 4.0 are closely related to 21st-century skills. This 21st-century education emphasizes learning that follows the development of the times, namely learning that integrates literacy skills, knowledge skills, skills, and mastery of technology (Syamsuar & Reflianto, 2019; Wibisana et al., 2022). The development of the Industrial Revolution 4.0 and 21st-century education requires education to continue to adapt to technological developments to improve the quality of education

*Corresponding author
E-mail addresses: dinarahma983@gmail.com (Ni Made Dina Rahmawati)

(Agustian & Salsabila, 2021; Syamsuar & Reflianto, 2019). Improving the quality of education aims to improve the quality of human resources. With the existence of quality, Human Resources (HR) will be able to develop potential and improve the quality of human beings through education so that every student needs to master basic educational skills such as reading, writing, and arithmetic by taking education in elementary school.

Elementary school is the beginning of students' character and personality formation. Elementary education, also called elementary school, is an educational institution that provides knowledge, experience, and skills to children who need them in society. Elementary school is the golden age for children to play, so implementing learning activities is required to make the data more enjoyable (Sabani, 2019; Tarigan et al., 2022). Implementing learning in schools is certainly inseparable from the basis of the curriculum. The curriculum plays an important role in realizing a future generation that is useful for the nation and state because, in the curriculum, there is a set of plans and arrangements regarding the objectives, content, and learning materials as well as the methods used as guidelines for organizing learning activities to achieve educational goals according to the characteristics of each school (Julaeha, 2019; Martin & Simanjorang, 2022). Current learning activities by implementing the independent curriculum, especially for grade four, are focused on books and independent curriculum, where students must be independent in learning according to their style. This curriculum does not limit the concept of learning in school or outside school and requires teacher creativity in organizing learning to make it fun (Alwahid & Suryana, 2021; Ratnawati & Khaharsyah, 2022). With the development of the designed curriculum, teachers are required to be able to collaborate with science and technology in learning activities. Learning to use technology will be more practical and enjoyable. Currently, educators are not only able to master approaches, strategies, models, methods, and techniques as well as learning tactics but must also be able to develop and utilize technology. Educators are one of the most important parts in achieving learning success. They are tasked with preparing materials and determining learning strategies that can improve learning activities in the classroom (Gunawan & Hendriani, 2019; Yuliana et al., 2021).

In the era of globalization, educators are expected to be able to master information and communication technology (ICT) to teach based on the development of the times. ICT refers to using devices to process and convey data from various sources (Agustian & Salsabila, 2021). By understanding this technology, teachers can provide more enjoyable, effective learning and actively involve students. By utilizing ICT, teachers can deliver learning materials via computers, the internet, and smartphones as sources of information for students, making it more practical. Learning activities using digital teaching materials by integrating local wisdom are very good to be applied to elementary school students. Local wisdom-based learning is very important for teachers to apply in learning that is useful for increasing the knowledge and understanding of students and as a medium for instilling a sense of love for local wisdom in their area, instilling positive characters according to the noble values of local wisdom and equipping students to face all problems outside of school (Rahmatih et al., 2020; Shufa et al., 2018). Developing digital teaching materials based on Google Sites supports optimizing school learning activities. Developing digital teaching materials based on local wisdom based on Google Sites can improve student learning outcomes in learning activities (Oktalia & Drajati, 2018). In addition to improving student learning outcomes, this digital teaching material based on local wisdom can enhance Bali Field's noble values and culture(Ginting, 2018; Jayanti et al., 2022).

However, using digital teaching materials could be much higher at the elementary school level. There is a need for more innovation in learning activities to develop digital teaching materials on plants as sources of life on Earth that integrate local wisdom and can impact students. This statement can be supported by questionnaire data submitted to teachers and students at SD No. 1 Sembung in the 2023/2024 academic year from July 24, 2023, to July 27, 2023, with a percentage of 87.5% of teachers stating that the use of technology in learning activities is important while 44.4% of students stated that learning activities had utilized the use of technology. As many as 57.1% stated that teachers rarely use digital teaching materials in learning activities, and 77.8% of students stated that they had never used digital teaching materials as a learning medium in class. From the statement above, the problem arises in the need for more use of technology in learning activities, even though it is very important to implement now. Learning activities at SD No. 1 Sembung still reference student and teacher books from the government. Meanwhile, in the fourth-grade elementary school student books, the content of the science subjects, especially on the topic of plants as a source of life on Earth, is still minimal, and there are more project step activities due to the implementation of the Merdeka curriculum (Yamin & Syahrir, 2020). In the independent curriculum, students must carry out learning activities formally and informally independently.

The solution to overcome this problem is to use digital teaching materials. Implementation of technology-based learning activities at SD No. 1 Sembung even though elementary schools, especially in the Badung area, have been facilitated with laptops from the Badung Regional Government so that the facilities

provided should be utilized by implementing new learning by implementing technology-based learning, one of which is with digital teaching materials. In addition, gadgets are more widely used to access non-educational aspects such as social media and playing games (Sa'diyah, 2020; Sobry, 2017). Misuse of gadgets often makes children follow the latest trends, so it is necessary to introduce local wisdom in Bali from an early age to foster a sense of nationalism. Digital teaching materials can be used as an innovation in the field of education that integrates technology, information, and communication to display information media in the form of more unique and practical teaching materials and integrate Balinese local wisdom into learning materials. Digital teaching materials with local wisdom based on Google sites can make it easier for teachers to deliver material to students. This is also in line with making students understand learning in a fun, effective way and creating new understandings related to the wise use of smartphones. Digital teaching materials with local wisdom based on Google sites can be developed by teachers so that they will provide meaningful learning experiences to students. Using digital-based teaching materials can also support and make students more active and remember learning well because they can be accessed anytime via laptops or gadgets. Digital teaching materials with local wisdom based on Google sites must be developed based on these problems. Previous research findings stated that good digital teaching materials are teaching materials that can be used as learning resources by providing meaningful learning experiences and approaching the reality in the environment around students 2013 (Nalasari et al., 2021; Nenoliu et al., 2020).

The research conducted by Nalasari discusses the development of teaching materials based on Google Sites on theme nine sub-theme of natural resources in Indonesia for grade four of elementary school using the 2013 curriculum material (Nalasari et al., 2021; Nenoliu et al., 2020). The effectiveness of website applications in learning has resulted in the website learning media being used to increase students' interest in learning, thereby helping students and teachers carry out additional learning outside of school so that learning is not boring and students' interest in learning is high (Meduri et al., 2022). The material or topic related to local wisdom in Bali in the science subject is planting as a source of life on Earth. Local wisdom activities carried out in Bali related to plants as a source of life are. The Balinese believe that plants are a source of life, so it is commemorated every six months, exactly 25 days before Galungan, namely on Tumpek Wariga (Pradnya & Suswandari, 2022; Suseni, 2021). Tumpek Wariga is also known as Tumpek Pengatag, Tumpek Pengarah, or Tumpek Bubuh, which is commemorated as an offering or form of devotion to God or Dewa Sangkara, the ruler of plants for all the abundant natural wealth that has been given so that plants become a source of life on Earth. Based on this research, there is relevance to the research that will be carried out, namely the learning media developed, which are both digital and can attract students' interest in learning. The difference is the application used to develop digital teaching materials. The previous development used a web application, while the teaching materials used the Google page, namely the Google site. The novelty in the research to be carried out is the teaching material that will be developed using material from the Merdeka curriculum. This study analyzed the effectiveness of local wisdom digital teaching materials based on Google sites on plants for fourth-grade elementary schools as a source of life on Earth. This research is expected to benefit students by increasing their curiosity and enthusiasm in the learning process with technology-based learning media. It is expected to benefit teachers so that they can be used as practical and effective teaching materials and provide understanding and additional insight into interesting teaching materials.

2. METHOD

This study uses the type of research and development often referred to as RnD (Research and Development). This type of research and development aims to produce a certain product by testing its feasibility, practicality, and effectiveness. This research and development type is suitable for helping researchers develop teaching materials. The teaching materials developed refer to the ADDIE (Analysis-Design-Develop-Implement-Evaluate) teaching material development model. The ADDIE model has five stages: analysis, design, development, implementation, and evaluation (Alwahid & Suryana, 2021; Latip, 2022; Simamora et al., 2020). The data collection for this development research uses questionnaires and test methods. This study uses two questionnaires: a validity questionnaire given to media and material experts and a practicality questionnaire given to teachers and fourth-grade elementary school students. The data collection method through tests is used to measure the learning outcomes obtained by students before and after using the developed digital teaching materials. The research that the researcher will conduct uses a quantitative descriptive statistical analysis method approach to describe the average score of each media and science learning expert related to the learning media developed in this study. The data collection instruments used in this study are questionnaires and learning outcome tests. This study uses a questionnaire instrument with a scale of 1-5. The answer scale is given a score so that quantitative analysis

can be carried out, such as Very Good (SB) given a score of 5, Good (B) given a score of 4, Fairly Good (CB) given a score of 3, Less (KB) given a score of 2, and Not Good (TB) given a score of 1. This study uses two types of questionnaires: a validity questionnaire and a practicality questionnaire. The second data collection instrument is a learning outcome test instrument used to measure the effectiveness of the developed digital teaching materials. The efforts to ensure the instrument's validity are by making a grid, consulting with the supervisor, and compiling the instrument. The following is the instrument grid used to determine the validity, practicality, and effectiveness of digital teaching materials based on Google Sites on the topic of plants as sources of life on Earth, which are described in Table 1, Table 2, Table 3, and Table 4.

Table 1. Media Expert Validation Instrument

No.	Aspect	Indicator	Total Item
1	Visual	Image Quality	2
		Color Suitability in Digital Teaching Materials	1
		Suitability of Taking Pictures with Local Knowledge	2
2	Typography	The Attractiveness of the Background, Images, and Animations	3
		Selection of Text Types	2
		Accuracy of Text Size and Color	3
3	Presentation	Have an Attraction	2
		Easy to use	2
		Flexible	3
Total			20

Table 2. Material Expert Validation Instruments

No.	Aspect	Indicator	Total Item
1	Material	Suitability of Material with Learning Outcomes	2
		Suitability of Material with Learning Objectives	2
		Quiz	2
2	Language	Suitability of Material with Local Wisdom	2
		Suitability with the use of Language Rules	3
		Use of Language that is Easy to Understand	2
		Communicative	2
		Suitability with Student Development	2
		Completeness of Media	3
Total			20

(Source: modified from Mudiartana et al., 2021)

Table 3. Practitioner Instrument

No.	Aspect	Indicator	Total Item
1	Visual	Image Quality	1
		Color Suitability in Digital Teaching Materials	1
		Suitability of Local Wisdom Image Capture	1
2	Typography	Attractiveness of Background, Images, and Animations.	3
		Selection of Text Types on the Topic of Plants as a Source of Life on Earth	1
		Accuracy of Text Size on the Topic of Plants as a Source of Life on Earth	1
3	Presentation	Has Appeal	1
		Easy to use	1
4	Material	Suitability of Material with Learning Achievements	2
		Suitability of Material with Learning Objectives	1
		Suitability with Learning Materials	2
5	Language	Suitability with the use of Language Rules	2
		Use of Language that is Easy to Understand	1
		Communicative	1
		Suitability with Student Development	1
Total			20

(Source: modified from Mudiartana et al., 2021)

Table 4. Learning Outcome Test

Learning Outcomes	Question Indicator	Cognitive Level Dimensions	Type of Questions
Students can identify problems related to preserving natural resources in the surrounding environment and their relationship to efforts to preserve living things.	Identifying plant body parts and describing their functions	C2	Multiple Choice
	Analyzing flower parts	C4	Multiple Choice
	Analyzing the process of photosynthesis	C4	Multiple Choice
	Analyzing the benefits of photosynthesis	C4	Multiple Choice
	Analyzing plants with local wisdom in Bali	C4	Multiple Choice
	Analyzing how to preserve plants	C4	Multiple Choice

The research that will be conducted uses an approach to data analysis methods and techniques, namely descriptive statistical analysis and quantitative descriptive statistical analysis. The results of this data analysis are then used to determine the validity, practicality, and effectiveness of the digital teaching materials developed. This study uses an instrument trial with a content validity test, test item validity test, test item reliability test, discriminatory power test, and test difficulty level, as well as data analysis in the form of scores from the pretest and posttest results between learning before using digital teaching materials and learning after using digital teaching materials with normality test, homogeneity test and hypothesis test with paired sample t-test analysis techniques.

3. RESULT AND DISCUSSION

Result

The development of local wisdom digital teaching materials based on Google Sites on plants as sources of life on Earth is carried out in several stages referring to the ADDIE model. The first is the analysis stage. Several activities are carried out at this stage: analyzing needs, teacher and student handbooks, curriculum analysis, and media creation analysis. The second is the planning stage, which is a continuation of the analysis stage, which includes content design, storyboard or flowchart design, and selecting the compiler of digital teaching materials to be used. The third stage is the development stage of activities to develop local wisdom digital teaching materials based on Google Sites per the design, which has been consulted and received input and suggestions from the supervising lecturer.

Furthermore, the fourth stage is the implementation stage, which is carried out by testing local wisdom digital teaching materials based on Google Sites that have been validated and declared practical. Finally, the evaluation stage is carried out to conduct an evaluation based on data from the results of validity tests, practicality, and effectiveness test results to determine the effect of digital teaching materials based on Google Sites on students and the implementation of learning, especially on the content of Natural and Social Sciences for grade four elementary schools. Research and development by creating a digital teaching material based on local wisdom based on Google Sites on plants as a source of life on Earth. Digital teaching materials are developed using websites found in Google features. The development of digital teaching materials with the final result in the form of links will make it easier for students to learn flexibly and introduce technology to students in the field of education. On Google Sites, developers only need materials and designs in the form of images, so on Google Sites, they only need to enter by uploading images. Teaching materials developed with local wisdom designs and local wisdom materials to increase student interest and bring students closer to the environment or local genus around students. The design of digital teaching materials based on Google Sites on the topic of plants as a source of life on Earth for grade four elementary school is in the form of a homepage, foreword, instructions, Learning Achievements and Learning Objectives, materials, Student Worksheets, quizzes, glossaries, reference lists, and teacher information. A good instrument if it has met the requirements for content validity. The level of validity of the grid of the digital teaching material instrument based on Google Sites can be measured from content validity. The content validity test of the instrument is carried out through expert assessment (judges) or people who are experts in their fields. Two subject matter experts and two media experts trialed the digital teaching material product. The data from the validity test of the digital teaching material were analyzed to determine the validity of the teaching material that had been developed. Data analysis was conducted by calculating

the average score obtained through the assessment sheet that the subject matter experts and the media experts had assessed. The results of the validity test of the local wisdom digital teaching material based on Google sites on the topic of plants as a source of life on Earth are presented in Table 5, and the revisions given by the experts are presented in Table 6.

Table 5. Product Validity Test Results

No.	Test Subject	Validity Results (%)	Description
1	Learning Material Expert Test	95.5 %	Very Valid
2	Learning Media Expert Test	95.5 %	Very Valid

Table 6. Suggestions and Input for Product Improvement

Media Expert	Materials Expert
1. Fix the text font color and adjust it to the background or shapes to make it look harmonious 2. The learning menu can be replaced with the material menu 3. There needs to be a clearer picture like picture 2 4. The media is good and can be used easily. A suggestion is to always monitor the web to ensure the media is functioning properly at all times	1. The quizzes presented are C1 and C2 levels. There is no analysis level. Create a quiz based on learning objectives 2. Molecular formulas have yet to be given at the elementary school level. It is better for the photosynthesis process to directly use water, carbon dioxide gas, oxygen, sugar/glucose, sunlight, and green leaf substance/chlorophyll

Digital teaching materials that have been tested for validity by material experts and media experts and improved based on the input given can then be tested by teachers and students at SD No. 1 Sembung. The practical test was carried out by two teachers and student responses of 6 students in the fourth grade of SD No. 1 Sembung. Teachers and students will provide an assessment of the practicality of the digital teaching materials that have been designed. The results of the teacher practitioner assessment of local wisdom digital teaching materials can be seen in Table 7.

Table 7. Results of Product Practicality Test

No.	Trial Subject	Validity Result (%)	Description
1	Practicality Test by Teacher	97.0 %	Very Valid
2	Practicality Test by Students	97.5 %	Very Valid

Testing the effectiveness of digital teaching materials products based on local wisdom based on Google sites to improve the learning outcomes of fourth-grade elementary school students was carried out by comparing student learning outcomes before (pretest) and after the application (posttest) of the digital teaching materials. The data collected involved pretests and posttests given to students. However, before giving pretests and posttests, test the validity of test items, the results of which are in Table 8; test the reliability of items; test the discrimination power, the results of which are in Table 9; and test the level of test difficulty, the results of which are in Table 10.

Table 8. Results of Empirical Validity Test of Learning Motivation Instruments

Question Item Number	r	Count Table	Test results
1	0.564	0.297	Valid
2	0.684	0.297	Valid
3	0.408	0.297	Valid
4	0.466	0.297	Valid
5	0.486	0.297	Valid
6	0.393	0.297	Valid
7	0.482	0.297	Valid
8	0.408	0.297	Valid
9	0.498	0.297	Valid
10	0.330	0.297	Valid

Question Item Number	r	Count Table	Test results
11	0.163	0.297	Not Valid
12	0.603	0.297	Valid
13	0.219	0.297	Not Valid
14	0.466	0.297	Valid
15	0.535	0.297	Valid

The validity test results obtained 13 valid instrument statement items, so the reliability test was continued only on the valid instrument items. Based on the reliability test, a reliability coefficient of 0.76 was obtained, in the range of 0.60-0.80, with a high-reliability category.

Table 9. Differential Power Results

Question Item Number	Top Class Score	Lower Class Score	D	Criteria
1	19	7	0.545	Good
2	20	4	0.727	Very Good
3	20	10	0.455	Good
4	18	7	0.500	Good
5	21	12	0.409	Good
6	18	12	0.273	Good Enough
7	14	5	0.409	Good
8	18	12	0.273	Good Enough
9	19	11	0.364	Good Enough
10	22	16	0.273	Good Enough
12	20	10	0.455	Good
14	17	8	0.409	Good
15	19	8	0.500	Good

Table 10. Results of the Difficulty Level Test

Question Item Number	P	Criteria
1	0.591	Medium
2	0.545	Medium
3	0.682	Medium
4	0.568	Medium
5	0.750	Easy
6	0.682	Medium
7	0.432	Medium
8	0.682	Medium
9	0.682	Medium
Nomor Butir Soal	**P**	**Criteria**
10	0.864	Easy
12	0.682	Medium
14	0.568	Medium
15	0.614	Medium

The pretest and posttest results with 13 valid instrument questions were analyzed using the t-test, namely the Paired Samples Test, to assess significant differences between learning outcomes before and after using the product. The effectiveness test was conducted on 20 fourth-grade students of SD No. 1 Sembung, Mengwi District, Badung Regency. Before conducting the t-test, a normality test and a homogeneity test are necessary. The results of the normality test are in Table 11, the results of the homogeneity test are in Table 12, and the results of the t-test hypothesis are in Table 13.

Table 11. Results of Data Distribution Normality Test

Learning outcomes	Degrees of Freedom	Significance Value
Pretest	20	0.196
Posttest	20	0.116

Table 12. Results of the Homogeneity of Variance Test

Result	First Degree of Freedom	Second Degree of Freedom	Significance Value
Based on Average	1	38	0.436

Table 13. Hypothesis Test Results

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 Pretest-Posttest	-44.61	4.73	1.05	-46.83	-42.40	-42.13	19	0.000

The effectiveness of digital teaching materials on the learning outcomes of fourth-grade students by measuring learning outcomes before and after using digital teaching materials. Digital teaching materials are implemented in the fourth grade of SD No.1 Sembung with 20 students with 15 questions given. Based on the pretest and posttest data analysis results, the significance value is 0.000 compared to the significance value of 5%, then 0.000 <0.05. When viewed from t count with t table then 42.13> 1.729 so that Ho is rejected and H1 is accepted so that it can be concluded that there is a significant difference in student learning outcomes on the use of local wisdom digital teaching materials based on Google sites on the topic of plants as a source of life on Earth for fourth-grade elementary school.

Discussion

Development research using the ADDIE model produces digital teaching materials by integrating local wisdom based on Google Sites on plants as sources of life on Earth for fourth-grade elementary school students. Developing digital teaching materials with the final result in a link will make it easier for students to learn flexibly and use it. On Google Sites, developers only need materials and designs in the form of images, so on Google Sites, they only need to enter by uploading images. The advantage of changing text material into images is maintaining a good appearance on every student gadget or laptop. The digital teaching materials developed begin with a homepage display containing a welcome greeting and menus in the digital teaching materials. The digital teaching materials platform menus include a preface, instructions, Learning Achievements and Learning Objectives, materials, Student Worksheets, quizzes, glossaries, and references. At the bottom of the homepage, the developer's identity, such as full name, address, and developer contacts, can be contacted along with social media. The material menu explains three sub-materials: plant parts, photosynthesis, benefits, and how to care for nature. In the material section, text and a summary video of the text are presented. In the Student Worksheet and quiz menu, three sub-menus follow the material presented, making it gradually easier for students to learn.

The development of digital teaching materials can overcome the problems faced at SD No. 1 Sembung; by developing digital teaching materials, learning activities can utilize technology. Using technology in learning activities makes it easier for students to understand and deepen learning concepts. It can increase the enthusiasm for learning and increase students' interest. The learning given to students must arouse students' interest so that students have enthusiastic participation in teaching and learning activities, so it is necessary to utilize technology in learning activities. One thing is certain: technology in education certainly solves existing educational problems and improves the quality of the learning (Agustian & Salsabila, 2021; Anggraeny et al., 2020). Digital teaching materials are designed with local Balinese wisdom to foster a sense of nationalism or awareness of the existing culture, especially in Bali. Local wisdom is a system in community life regarding social and cultural matters in the form of norms, customs, knowledge, and needs required by the community in an area (Immaniar et al., 2019; Priyatna, 2017; Rahmatih et al., 2020). The local wisdom in the digital teaching materials developed lies in the design of animated images and the content of the material on plants as a source of life on Earth, which is related to the celebration of Hindus in Bali for plants as a form of gratitude for the beauty of nature and abundant wealth which is commemorated with Tumpek Wariga (Asmarani, 2019; Wero et al., 2021).

Developing digital teaching materials with local wisdom based on Google sites has been declared valid. Media experts and material experts have tested it with a very good category. Digital teaching materials based on Google sites are declared valid because they have met aspects in terms of media, including visual aspects, typography, and presentation. The visual aspect can be seen from writing, letters, and the right image layout. The colors and animations used in digital teaching materials use bright colors to attract more students' attention. The animations used are local wisdom close to the students' environment. The

typography aspect in arranging letters, such as the suitability of the type of text, is appropriate, and the presentation aspect regarding the use of media and the appeal of the media is by elementary school students. While in terms of material, it has met the material and language aspects. Material aspects include the suitability of the material with Learning Achievements, the suitability of the material with learning objectives and quizzes, and the suitability of the material with local wisdom. Language aspects include the suitability of language rules, the use of language that is easy to understand and communicative, suitability with the development of students, and completeness of the media (Dewi & Suniasih, 2023; Indariani et al., 2018).

Digital teaching materials based on local wisdom based on Google sites have been declared practical, with a percentage from teacher practitioners and student responses in the very good category. Teaching materials are declared practical if they are easy to use in terms of their use and systematic presentation, and students easily understand the material presented in the teaching materials that have been developed (Rukiyah et al., 2022; Wulandari et al., 2020). The developed digital teaching materials are presented systematically, including learning achievements, learning objectives, and instructions on how to use them; there are text materials along with videos, Student Worksheets, and evaluation materials in the form of quizzes. In addition to being systematic, digital teaching materials can help teachers implement learning. Students can access materials from gadgets or laptops so that students do not only use gadgets to play games or open social media. In addition, there is a significant difference in student learning outcomes regarding using local wisdom digital teaching materials based on Google sites on plants as sources of life on Earth in grade four of elementary school. The advantages of digital teaching materials that are developed so that they can improve student learning outcomes are digital teaching materials accessed from links so that there is no need to install any applications that it is easier and can be accessed using gadgets and laptops, an attractive appearance with local wisdom animations and by the theme, attractive colors, accompanied by videos. Evaluation materials, such as quizzes, are used to measure student understanding. Digital teaching materials are equipped with instructions on how to use them so that users will not be confused in using the digital teaching materials that are developed, equipped with the developer's identity with the aim that if there are obstacles in the use of digital teaching materials, they can contact the developer and digital teaching materials are flexible and can be used anytime and anywhere just by using the internet. This finding is reinforced by the findings of previous studies stating that local wisdom-based digital teaching materials based on Android are declared valid and practical to use by students because they can help learning activities with practical and flexible advantages used anywhere and anytime without being limited by time so that there are supporting teaching materials other than books used for studying at home (Mudiartana et al., 2021; Tilova et al., 2022). Thematic teaching materials based on the local wisdom of Rembang are declared suitable for use in the learning process (Wulandari et al., 2020). The developed digital teaching materials must improve their appearance because they follow the gadget's shape.

The appearance will adjust to the shape of the user's gadget so that the developer can use image inserts on the website by minimizing changes in appearance on each gadget. The developed teaching materials are based on Google sites, with the final result in the form of a link in addition to the developer's link providing a QR code, which makes it easy to open digital teaching materials via gadgets with a scan. In addition to shortcomings in the appearance of teaching materials, in this study, only 20 students took the pretest and posttest. This happened because there was a problem limitation: the digital teaching materials made were only intended for fourth-grade students at SD No. 1 Sembung. For the next researcher, it is hoped that they can create teaching materials with different topics intended for students in other classes or carry out pretest and posttest exams for more than 20 students. This study also has a problem limitation, namely teaching materials in digital form and are only intended for fourth-grade elementary school students at SD No. 1 Sembung. Local wisdom digital teaching materials based on Google sites are developed using the website found in the Google feature.

4. CONCLUSION

Digital teaching materials based on local wisdom on Google sites were developed using websites found in Google features. Developing digital teaching materials with the final result in links will make it easier for students to learn flexibly and use them. The results show a significant difference in student learning outcomes regarding using digital teaching materials based on local wisdom based on Google sites on plants as sources of life on Earth in grade IV of elementary school.

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