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No College Students Left Behind Digital: Reading Comprehension in Framework of Direct Reading Thinking Activity (DRTA)

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ABSTRACT

Objective: Students must master reading comprehension activities because obtaining known information during learning is important. Without mastering reading comprehension, students will encounter problems between studies. On the other hand, there are still not many teachers who utilize technology products during teaching, so pedagogical and didactic aspects are neglected. Therefore, this research aims to develop Google Sites learning media through the Directed Reading Thinking Activity (DRTA) strategy so that students' reading comprehension skills on nonfiction texts can run well. **Method:** This research includes development research (RnD) using a sample of grade IV students totaling 50. The instrument used a media and material expert validation questionnaire and a student response questionnaire after the media was tested. **Results:** The results showed that developing Google Sites media with the DRTA strategy for students' reading comprehension skills was declared valid by material experts at 83% and media experts at 86%.In addition, after being tested, the development of Google Sites media received a good response from students. This means that the learning media developed is of high quality. **Novelty:** This research emphasizes solving students' reading comprehension problems in nonfiction texts. This is done by developing Google site media designed with the DRTA strategy and then testing students to see their reading comprehension ability.

INTRODUCTION

Reading comprehension skills are important fundamental skills that need to be mastered by elementary school students. These skills must be mastered to adapt and contribute to student learning outcomes. Comprehension is the key to acquiring new knowledge. Nowadays, reading comprehension is an active and indispensable process when listening to information from various media, one of which is that learning media reading skillfully can train students' understanding effectively (Ji et al., 2024). Therefore, reading skills are an important factor affecting the quality of students. Skilled readers are lifelong learners, meaning that reading must be needed by students as long as they want to learn (Kuche et al., 2024; Li et al., 2024).

Reading comprehension skills influence students' success in learning and gaining knowledge. Therefore, teaching reading comprehension has a strategic position in learning. However, not all students realize this, so reading comprehension activities have not yet become the basis of daily needs. According to Moh. Fadil et al., 2024), reading skills are acquired and learned at school. Students can grow, develop, and improve reading skills through teaching and learning activities. The more skillful the student understands the reading, the more apparent, transparent, and open the way of thinking. When reading, students must understand and understand between reading. and the content that is read. Teachers must give students the understanding that when reading, students must produce comprehension (Soeharto et al., 2024).

The higher the grade level in primary school, the more complex the students' comprehension required in reading. In phase C classes (grades V and VI), students must answer questions about the text that has been read. Teaching reading is considered to have ended when a student can read and write beginnings carried out in phase A classes (grades I and II)(Nurnugroho & Rochmiyati, 2024). Furthermore, in Phase B and Phase C (grades III to VI), the teaching of advanced reading has not received serious attention. Reading emphasizes reading aloud, a continuation of beginning reading and writing in grades I and II of primary school. Reading is about voicing language sounds or difficult words and understanding the text read, what it means, and what the implications are.

This reading ability is influenced by low abilities, including understanding paragraph ideas, reading graphs, understanding relationships between facts, linguistic logic relationships, and finding reading ideas (Alpian & Yatri, 2022; Muliawanti et al., 2022). Another study related to reading comprehension skills in Indonesia is the Progress in International Reading Literacy Study (PIRLS), an international study related to the reading literacy of elementary school students coordinated by The International Association for the Evaluation of Educational Achievement (IEA). In the study conducted by PIRLS, two aspects are measured: (1) the purpose of reading and the comprehension process. In 2006, Indonesia was number 41 out of 45 countries surveyed. Then, in 2011, PIRLS conducted another study on the reading ability of elementary school students in grade IV: 25% of students reached the intermediate level, 30% reached the very low level, and 40% reached the low level. Moreover, only 5% of students reached the advanced and high levels (Amelia et al., 2024).

Nonfiction text reading activities in grade V need teacher assistance to do repetitive reading to understand the text's content. In addition, students sometimes have problems or distractions in the classroom or school environment, such as hot weather, crowded classes, and students who cannot be quiet, which interfere with students' concentration in reading. Many problems and distractions (Dong et al., 2023; Ji et al., 2024). As a result, students are less thorough and less able to express the reading content in their own language, so learning outcomes are low. When learning in the classroom, teachers do not utilize and use technology optimally (Murfiana et al., 2022).

Teachers need technology-based learning media so that students can receive information well. Teachers are required to be able to use learning media according to the times. Teachers generally use media in photos or images and do not attract students' attention to learning the Indonesian language text (Degner et al., 2022; Dodds et al., 2021). It is strongly suspected that this is influenced by students' habits with gadgets and their features, which are far more interesting, so learning media is less attractive to students. The teacher creates creative, active, innovative, and educative learning conditions as a facilitator. This facility can be in the form of learning devices or teaching materials like audio visual, movies, television, computers, and the Internet (Aznar-Díaz et al., 2020).

Teachers need technology-based learning media so that students can receive information well. Teachers must be able to use learning media according to the times. Teachers generally use learning media in photos and images, which does not attract students' attention to learning Indonesian text. This is strongly suspected to be influenced by students' habits with gadgets and their much more interesting features, so learning media is less attractive to students. As facilitators, teachers have a role in creating creative, active, innovative, and educative learning conditions (Gunnars, 2021;

Sovacool et al., 2023). These facilities can be learning devices or teaching materials like audiovisuals, films, television, computers, and the Internet. The development of digital media based on Google Sites has been carried out by (Rahmasari et al., 2023), namely to improve the digital literacy of elementary school students. Then Widyaningrum et al. (2022) developed Google Sites media that focused only on training student literacy; further adjustments were needed to the media for elementary school students. On the other hand, Jeyarajaguru (2023) also developed Google Sites as a website-based learning media to improve Pancasila's ability to identify its values. However, it should be noted that the focus of the material in the study was not on nonfiction text and not on reading comprehension skills.

This digital media Google site is equipped with materials, images, videos, and quizzes to help students read and comprehend nonfiction text enthusiastically. The appearance of images in the text makes students more interested and understand the text's information. When the info or reading presented with pictures is by the content of the text, students' cognitive abilities can increase. Google sites facilitated with pre-reading and post-reading activities can make students focus and understand the content of the reading.

Google Sites' digital media development is based on the Directed Reading Thinking Activity (DRTA) strategy. The DRTA strategy focuses students on reading and thinking before the teacher provides material. In reading learning activities, the teacher asks students to make various predictions, and then they are asked to assess predictions according to their thoughts and analysis (Febriyanto & Sutarna, 2020; Karakaita Putri et al., 2019). In addition, the advantage of the DRTA strategy is the help of pictures. Curiosity about the answer can increase motivation to be more careful in reading the text so that students can easily understand the reading and find the main sentence.

Teachers can use the Directed Reading Thinking Activity (DRTA) strategy to improve reading comprehension. In this strategy, students are asked to give their predictions about what is contained in the reading text before the reading lesson takes place by predicting the series of pictures (Alfiani et al., 2024; Hidayana et al., 2021; Satriani et al., 2022). So that the message to be conveyed in the reading can be understood by students. So, the DRTA strategy activities focus on students reading and thinking before the teacher provides material; this is because, in the prediction step, students are asked to make conjectures through pictures and reading titles so that students can solve problems through reading comprehension activities. Based on the research background above, the research questions are as follows.

1. How is the process of developing Google Site MediaGoogle Site Media through an integrated DRTA strategy for reading comprehension skills on nonfiction material?
2. What is the quality of the results of developing Google Site Media through the integrated DRTA strategy for reading comprehension skills on nonfiction material?

RESEARCH METHODS

This research is included in development research or Research and Development (RnD). It develops Google Site learning media packaged with a DRTA strategy focusing on text material. The ADDIE model consists of analysis, design, development, implementation, and evaluation (Muslimin et al., 2017). It is appropriate for use in face-to-face learning to help students engage and understand the learning objectives to be achieved. The following five stages of the ADDIE model are shown in the Figure 1.

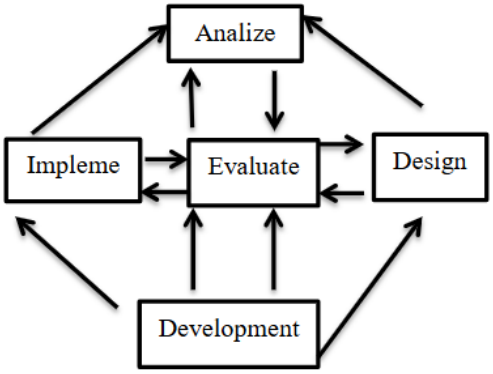

Figure 1. ADDIE model design.

The sample was a purposive sampling of 36 fifth-grade students in Madiun City, East Java. After using Google Sites media, 36 students provided responses. The research flow can be seen in Figure 2.

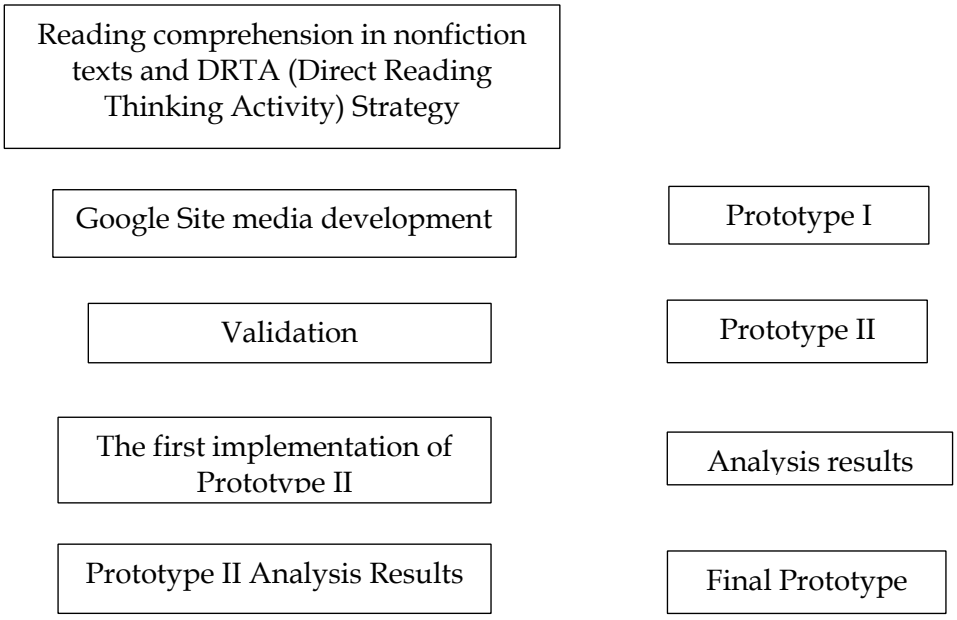

Figure 2. Research flow for model development.

The research instrument in this development research is a questionnaire. The questionnaire was filled out by (1) a team of expert validators (media and materials) to determine the validity of the media and (2) grade IV students to determine the quality of the learning media. The material expert validation questionnaire consists of competence, materials, presentation, and evaluation. The media validation questionnaire includes media design, text, images, videos, language, and utilization.

Four validators conducted instrument validation. The results of the instrument validation assessment used a Likert scale with categories 1-1.5 less good category; 1.51-2.5 fairly good category; (3) 2.51-3.5 good category; (4) 3.51-4 very good category (Fakhriyah et al., 2017). Table 1 shows the results of the questionnaire validation.

Table 1. Questionnaire instrument validation results.

Validators	Instrument Validation Results	Information
V1	3.4% (good)	This can be used for minor revisions
V2	3.5% (good)	This can be used for minor revisions
V3	3.3% (good)	This can be used for minor revisions

Validators	Instrument Validation Results	Information
V4	3.6% (very good)	It can be used without revision
Average	3.4% (good)	

Based on the results in Table 1, the validators' instrument validation assessment produced a good assessment. The instrument validation results on the questionnaire sheet were 3.4%, which means the instrument is suitable for use in research. The questionnaire reliability test used Cornbach's alpha. Cornbach's alpha is used to see the reliability of the questionnaire (Taber, 2018). Cronbach's alpha of more than 0.7 is considered sufficient. The results of the questionnaire reliability r = 0.742, so it is sufficient.

Table 2. Statistical reliability test results of the questionnaire.

Alpha Cronbach	N items
0.7	12

Table 2 shows the reliability results. The data will be analyzed using the percentage method and formula provided by Nguyen et al. (2022).

$$NP = \frac{R}{SM} \times 100\%$$

Information:
NP: Percentage value
R: Value obtained
SM: Maximum score

Based on the data analysis that has been conducted and collected, the percentage value of the research results is described as a classification to determine the quality or suitability of the product, as shown in Table 3.

Table 3. The scale of eligibility.

Achievement (100%)	Category
0.0% - 40.0%	Lack of Quality
41.0% - 60.0%	Not eligible
61.0% - 80.0%	Quality
81.0% - 100.0%	Very good

(Liliarti & Kuswanto, 2018)

RESULTS AND DISCUSSION

Results

The analysis stage is collecting information related to reading reference or literature activities, learning in the classroom, and seeing the conditions of teacher and student needs conditions. The focus of the collection of information is related to the problem of learning to read comprehension about nonfiction reading. Students face problems. Students are bored with long and less interesting readings. Readings are only available in student handbooks obtained from the government. The researcher then examines the media needs that are expected and make students interested in reading comprehension, namely Google Sites web-based learning media that can be accessed at https://sites.google.cxom/

The design stage is the stage of designing learning media. The initial activity is to create a media framework and content. Researchers design nonfiction text materials and readings that are packaged in Google Sites. Researchers create concepts from themes and materials about nonfiction stories designed with appropriate colors or animations. Next, create a storyboard so students can easily access it and see it according to their wishes, such as the main page and evaluation page. The evaluation menu consists of news texts, biographical texts, and quizzes. The layout is divided into the main page, learning objectives, materials, videos, and evaluation questions.

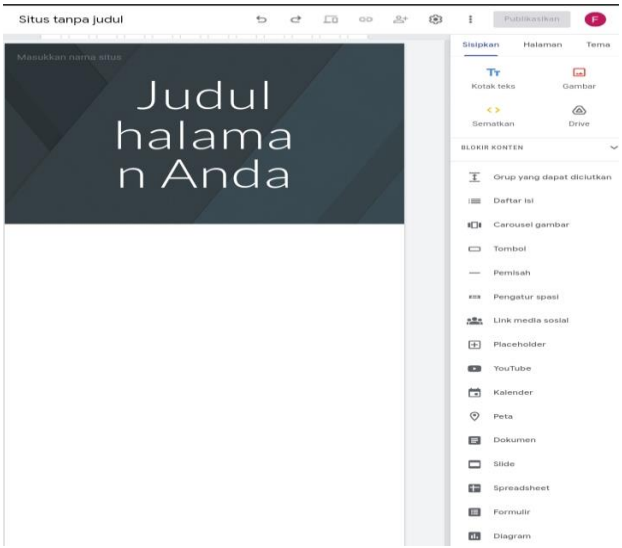

Figure 2. Initial design.

The development stage involves entering the research design into Google Sites media. The main page contains the homepage, learning objectives, materials, videos, and questions. Figure 3 shows the main page displayed.

Figure 3. Home page view.

The learning objectives menu shows the objectives achieved, helping students explain and identify the material being studied. There are two objectives: (1) students can understand the contents of nonfiction texts, and (2) students can answer 5W=1H from reading texts. Figure 4 is a display of the learning objectives menu.

Figure 4. Learning objectives view.

The material menu includes nonfiction texts with sub-materials of understanding, types of nonfiction texts, and characteristics of nonfiction texts. This menu aims to understand the theory of nonfiction texts. Figure 5 shows the material menu.

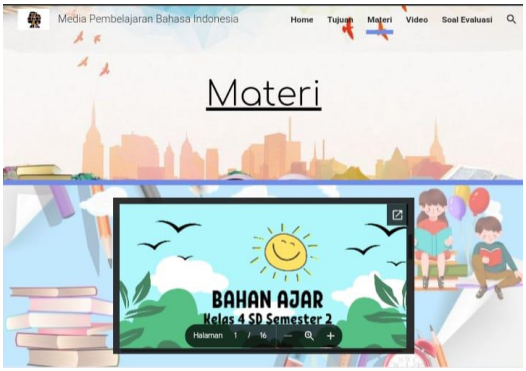

Figure 5. Material view.

The video menu contains video links related to nonfiction text. The video source we took is YouTube, here is the video link:

- https://youtu.be/-BnK-nshDko
- https://youtu.be/ECsNBZaj9yg

The purpose of presenting the video is to help students understand and learn better about nonfiction texts. In addition, students are more interested in learning when moving images, texts, and sounds are presented. Figure 6 shows the video menu.

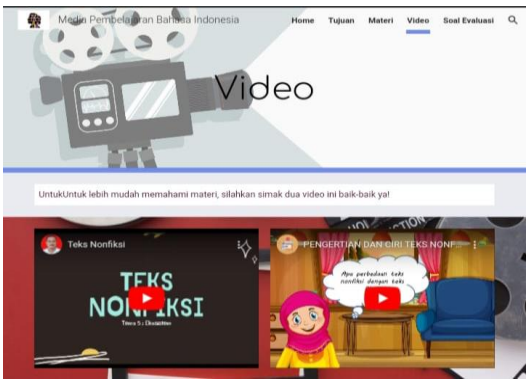

Figure 6. Video view.

The evaluation menu consists of questions given after reading nonfictionnonfiction texts. Students must fill in the questions online. The questions are presented in the form of Google Form and Quizizz, which are essay questions. The first question is related to

the 5W+1H question, and the second question is a multiple-choice question related to Mohammad Hatta's biographical text. Figure 7 shows the appearance of the evaluation question menu.

Figure 7. Evaluation question view.

Click on the link below to access the Google Sites media on reading comprehension of nonfiction-developed nonfiction stories.

https://sites.google.com/d/1HHQUBC8xMqAwpqbGLeDgMDD0nMWbF_jo/edit

After the media is developed, the media is validated by material and media experts. Validation aims to see the feasibility of Google Sites-based learning media. The following are the results of the validation of Google Sites web-based learning media:

Material Expert Validation Results

The validation process of material experts using a questionnaire instrument with the results in Table 4.

Table 4. Material expert validation results.

Aspect	Indicator	Value Scale	
		3	4
Competence	Suitability of materials	☐	
	Accuracy of material	☐	
	Consistency of material	☐	
Material	Accuracy of material content		☐
	Image and video compatibility	☐	
	Provision of materials according to student needs.	☐	
	The truth of the substance of the matter	☐	
Demonstration	Availability of materials according to student needs.		☐
	Language fosters students' interest in reading	☐	
	Media supports student independence	☐	
	Media encourages the desire to learn	☐	
	Media can increase knowledge		☐
Evaluation	Suitability of evaluation questions		☐
	Completeness of each answer choice	☐	
	Suitability of question items to student capacity		☐

Aspect	Indicator	Value Scale	
		3	4
	Questions have scores and answers.	☐	
Total Score	**53**		
Maximum Score	**64**		
Percentage	$P = \frac{53}{64} \times 100 = 83\%$		

Indonesian language learning material experts have validated Google Sites media consisting of five aspects: competence, material, demonstration, and evaluation. The overall calculation result is 84.0%, meaning that Google Sites learning media based on DRTA is categorized as valid and worthy of testing on grade V students. The material expert from Google Sites Media suggests improving grammar by changing passive to active sentences and non-standard sentences to standard sentences.

Media Expert Validation Results

The media expert validation process used a questionnaire instrument with the following results.

Table 5. Media expert validation results.

Aspect	Indicator	Value Scale	
		3	4
Cover design and layout	Google Sites coverage accuracy	☐	
	Google Sites cover design selection	☐	
	Accuracy of design, layout, and components	☐	
Text	Font selection		☐
	Font size selection		☐
	Text color selection	☐	
Images and Videos	Suitability of image and video selection to the material	☐	
	Image and video quality		☐
	Image size accuracy	☐	
	Interesting pictures and videos		☐
Language	The relationship between students' thinking levels and language use	☐	
	Language fosters students' interest in reading	☐	
	Easy-to-understand language	☐	
Utilization	Media suitability	☐	
	Ease of use		☐
	Student independent learning support		☐
	Improving student learning motivation		☐
	Improve student understanding		☐
Total Score	**62**		
Maximum Score	**72**		
Percentage	$P = \frac{62}{72} = 100 = 86\%$		

Based on Table 5, the media expert questionnaire consists of five aspects: cover design and layout, text, images and videos, language, and utilization. The validation

results produced an average material expert count of 86.0%. This means that the DRTA-based Google Sites learning media is declared valid and worthy of being tested on grade V students. Suggestions for improvement that need to be revised relate to color and grammar. Some suggestions written by the media and material validators are that media development can be used as a school program, and this Google Sites media can continue to the distribution and adoption stage.

In the implementation stage, Google Sites media is tested to see the quality of learning media while reading nonfiction text comprehension. The media was tested on 36 fifth-grade students in elementary schools. After the trial, students were asked to fill out a questionnaire about the use and quality of the media. The results of student responses can be seen in Table 6.

Table 6. Student response results.

Question	Frequency	
	Agreed	**Strongly agree**
Menu view in Google Sites	10	16
Content on Google Sites	5	31
Moving audiovisual learning videos and animations available on Google Sites.	6	30
As a web-based learning media, Google Sites continues with the following learning.	5	31
Effectiveness of using Google Sites.	2	34
Total	28	152
Percentage	15.6	84.4

Based on Table 6, aspects related to the appearance of the media menu, presentation of materials, video and animation appearance, and effectiveness, students rated 84.4%. Students strongly agree that Google Sites is an engaging, easy-to-use learning support media. Meanwhile, 15.6% of student responses stated that they agreed. The Evaluation Stage is the final refinement stage of research activities. This stage carries out final refinement in fixing deficiencies and problems when using Google Sites media when learning in class.

Discussion

Both students and teachers can benefit greatly from using Google Sites as an educational tool. According to research by Al Husaeni et al. (2022), employing digital media as a classroom medium helps prevent learning boredom and provides a contemporary learning environment. In this situation, Google Sites can boost students' drive to learn and make the content more straightforward for them to absorb. Additionally, Google Sites gives pupils a quick and simple approach to obtaining educational materials (Songkhro et al., 2022). On the other hand, teachers can share learning resources and communicate more information because Google Sites learning media is integrated into a single webpage. This is supported by earlier research findings (Wahyudi et al., 2023), which indicate efficient utilization of learning. Learning media can make learning material more interesting, organized, and accessible.

Easy access is one of the benefits of Google Sites' website-based learning resources since it is available for free, simple to use, and accessible from a variety of devices. Furthermore, Google Sites is virus-proof, practice site addresses are easily shared, and practice questions are visually appealing to entice students to take the test

(Jeyarajaguru, 2023). Numerous studies have demonstrated that Google Sites media used for learning can display and handle text, video, and audio content. According to Gan et al. (2015), Google Sites provides customizable websites and an intuitive dashboard for everyday consumers.

Although Google Sites is not explicitly made for e-learning, teachers can use it for e-learning with tremendous and engaging outcomes. This application is intended to help lessen apprehension about technology. Teachers no longer need to adjust when utilizing this media because twenty-eight teachers merely need to gather the different links used in learning on the Google Sites platform. Teachers frequently come across Google Sites media when using web-based digital technology, which is equally significant because it can be learned more rapidly than social media. Any learning issues could be resolved by it, and student involvement could rise dramatically. Additionally, it works well and can raise student learning outcomes (Al Husaeni et al., 2022; Barisone et al., 2019; Wahyudi et al., 2023).

The media is considered legitimate if the complete validation computation by material and media specialists yields findings greater than 80%. Because learning elements, content, and grammar are interconnected, researchers consider their applicability while developing interactive multimedia to produce high-quality interactive multimedia (Diprossimo et al., 2023). The appropriateness of the learning material's content must also be the foundation for reasonable and legitimate learning materials (Praheto et al., 2020). Another study by Gan et al. (2015) explains that Google Sites can be used as a learning method or media in the classroom, particularly in the 21st century and the technological industrial revolution. The Google Sites method or media will increase students' interest in participating in the elementary school learning process. Google Sites learning media makes learning simple and enjoyable so students can understand and comprehend lessons easily. It also helps students focus on learning, which can increase learning efficiency.

Digital media aimed at reading comprehension for elementary school students, particularly Indonesian language content, is suitable for learning (Iskandar et al., 2024). This is evident from several factors, including: first, the quality of the audio and visual media, which includes the material presented, is by the demands of essential competencies and by the lesson plan that has been designed and has linked previous learning so that students can remember previous learning (Sudana et al., 2024). This type of learning is also conducted offline due to the rapid development of various digital media, tools, and materials in this era of technological advancement.

A clear objective is the foundation of good learning. This is consistent with research by Diprossimo et al. (2023), which claims that having specific goals will help every learning process and vice versa. According to Vizcaíno-Verdú et al. (2019), students can have unique experiences when digital media is included in the learning process. One advantage of adopting digital media is that it can facilitate more effective and efficient material presentation. The second is how the medium has been designed. It is the responsibility of educators to design learning. Each learner's conditions must be considered when designing the learning process (Rejo, 2021). This media design is excellent because the formulation elements and learning objectives have been designed based on core and key competencies. In addition, there are benefits to the media being created, such as the ability of digital media to increase students' motivation for studying. According to a study by Bangir-Alpan (2021) and Orozco et al. (2020),

classroom media use must be acceptable to motivate students and encourage learning activities.

The chosen technique significantly impacts whether or not students meet their learning objectives when learning to read. Hidayana et al. (2021) assert that the text and context—two components of comprehension—are linked to the approach choice. The Direct Reading Thinking Activity (DRTA) reading technique is part of the Indonesian language learning approach and is anticipated to help with reading difficulties (Satriani et al., 2022). This DRTA strategy improved upon the Direct Reading Activity (DRA) approach. In addition to fostering students' interest in reading, this DRTA approach is intended to enable students to make predictions from stories and draw inferences from the teacher's narrative (Kurniaman Otang, Eddy Noviana, Neni Hermita, 2019).

Teachers can inspire their effort and focus by engaging students intellectually and motivating them to create questions and hypotheses, process information, and evaluate preliminary solutions (Erliana, 2011; Hidayana et al., 2021). To apply this kind of instruction, pupils must be able to comprehend text through images on Google Sites that the teacher has provided. The teacher uses this phase to help pupils develop metacognition, which allows them to think independently of the teacher's limitations. According to strategy, it is an individual's innate capacity for thought, problem-solving, and decision-making in the context of education. This implies that to solve problems and analyze them to reach a decision, students must have a broad and creative perspective.

CONCLUSION

Fundamental Finding: This study demonstrates the necessity for Indonesian language instructors to utilize digital learning platforms and react swiftly to technological changes. When developing digital learning materials, innovative educators aim to assess primary school pupils' proficiency in the Indonesian language so they can meet the demands of the rapidly evolving digital landscape. Google Sites is a web-based learning tool that is practical and appropriate for educational activities, according to the findings of a study on creating Google Sites-based learning materials for Indonesian language courses and nonfiction narratives for elementary IV. The percentage scores for the validation results from media and material specialists were 86% and 83%, respectively. Google Sites is, therefore, a workable web-based learning tool. **Implication:** Digital learning platforms will, therefore, make it possible to complete results more quickly, which is crucial for Indonesian teachers when choosing how to teach Indonesian by the curriculum. It is recommended that educators use Google Sites' digital content as an effective teaching tool for reading comprehension. **Limitation:** The results of this study might not apply to other populations because it only included a limited or non-representative sample of college students. **Future Research:** Because subpar conditions can lead to less-than-ideal test outcomes, other researchers should focus on the state of the school, class, and students before beginning any experiments.

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