Volume 7 Number 2 (2025)
May-August 2025
Page: 1016-1035

E-ISSN: 2656-4491
P-ISSN: 2656-4548
DOI: 10.37680/scaffolding.v7i2.7818

SCAFFOLDING
Jurnal Pendidikan Islam dan Multikulturalisme

DEVELOPMENT OF LOCAL WISDOM-BASED ANIMATED VIDEO MEDIA FOR ELEMENTARY SCHOOL MATHEMATICS SUBJECTS

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Submitted: 18/03/2025 Revised: 20/05/2025 Accepted: 19/07/2025 Published: 23/09/2025

Abstract

This study was motivated by the need for engaging learning media to enhance students' understanding of fractions in Grade III at SDN 008 Beringin Taluk, Kuantan Singingi. The limited use of local culture-based media has contributed to a decline in learning outcomes below the minimum mastery criteria (KKM). The study aimed to describe the development process, determine the validity, and assess teachers' and students' responses to animated video media in mathematics learning. The research employed a Research and Development (R&D) method using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The population consisted of media experts, material experts, Grade III teachers, and Grade III students. The sample was selected through purposive sampling, totaling nine participants: three experts, three teachers, and three students. The research instruments included questionnaires, with primary data obtained through interviews, observations, and trials, and secondary data collected from relevant documents and literature. Data analysis applied descriptive qualitative and quantitative methods based on the percentage of validation scores. The validation results showed scores of 82% from material experts, 93.3% from media experts, 95% from language experts, and 100% from both teachers and students, all falling into the "highly valid" category. Beyond delivering fraction content, the media also integrates local cultural values such as *Pacu Jalur*, making the learning process more meaningful. It is concluded that animated video media based on local wisdom are highly feasible as a supporting tool for Grade III mathematics learning and have the potential to preserve local culture through education.

Keywords Animated video; elementary education; local wisdom; mathematics education.

INTRODUCTION

21st-century education has brought significant changes to the role of teachers, shifting from being instructors who deliver material to facilitators who ease the learning process for students. Educators are required to continuously keep up with developments in knowledge and technology, leading to innovations in teaching methods. Teachers can use technology as a relevant learning medium, and technology provides ease in delivering or illustrating the material being studied. (Muzaffar & Soleh, 2025).

Learning media are tools used by teachers to deliver information to students. According to Junaidi (Wulandari et al., 2023), the use of instructional media during the teaching orientation phase can significantly enhance the effectiveness of the learning process as well as the delivery of relevant messages and materials during instruction. In line with other opinions by Ashar (Yeni et al., 2023), Learning media refers to all forms of tools or resources that can be used to deliver messages or information in the teaching and learning process, thereby stimulating students' attention and interest in learning activities. Learning media is used to clarify the presentation of messages and information so that a lot of information can be conveyed in a short amount of learning time (Hariati et al., 2020). Learning media encourages the communication interaction process between educators and students to run effectively and efficiently, thereby stimulating students' thoughts, feelings, curiosity, attention, and interest (Fajar et al., 2023).

The most important purpose of using the media is to increase learning motivation. (Jediut et al., 2022). Another opinion is supported by (Nurrita, 2018) The benefits of learning media can be divided into two aspects. First, this media provides guidance for teachers in achieving learning objectives, so that the material can be explained systematically and presented in an engaging way to improve the quality of learning. Secondly, learning media has the potential to increase students' motivation and interest in learning, enabling them to think about and analyze the lesson material presented by the teacher more effectively in an enjoyable learning environment, so that students can understand the material more easily.

In learning, especially in mathematics lessons, learning media are needed that can help students understand concepts more concretely, increase their interest in learning, and make it easier to solve math problems through engaging and interactive visualizations because mathematics is often considered an abstract and difficult subject to understand, especially for elementary school students, therefore, learning media that can bridge the gap between theoretical concepts and

enjoyable, easy-to-understand learning experiences are needed. According to Yasmita (Masfufah & Afriansyah, 2021) Mathematics is a way of logical thinking. Mathematics is the science that studies the relationships between patterns, shapes, and structures. Mathematics is considered the queen of all sciences and also serves as the foundation for other sciences. I agree with this, Amir (Prasetya et al., 2021) Mathematics is one of the subjects taught to students at the elementary school level, with the aim of helping them prepare to face changes occurring in their surroundings. This is done through practice in acting and thinking logically and rationally.

Another opinion is supported by Ikhsan (Octavyanti & Wulandari, 2021). Mathematics is one of the subjects taught at all levels of education, from elementary school to university. Through learning mathematics, students can solve various problems encountered in daily life. This subject is considered capable of developing students' abilities to think logically, analytically, systematically, critically, and creatively, as well as their ability to work collaboratively (Mashuri, 2020). In addition, learning mathematics also plays an important role in shaping students' character, boosting their confidence, and preparing them to face academic and professional challenges in the future. In mathematics subjects, engaging and creative learning media are very necessary.

Based on an interview with Mrs. Yerni Deska, S.Pd, the third-grade homeroom teacher, on February 3, 2025, many students find learning mathematics difficult to understand because difficulties in learning math can be caused by various factors, including individual differences in math ability, lack of motivation, unsuitable teaching methods, health or emotional issues, and environmental factors. Thus, in the teaching and learning process, most students tend to be less interested in participating in the lessons, which results in suboptimal learning outcomes because they do not fully understand mathematics, even though the teacher has already used learning media. Consequently, students' achievement falls below the minimum mastery criteria (KKM). This can be seen from the mathematics learning outcomes of third-grade students, which have not yet shown satisfactory results. Based on the school's established minimum mastery criteria (KKM) for mathematics, which is set at 75, the students' achievement in the first semester only reached 60%. This is in line with the problems encountered by (Primadewi & Agustika, 2022) The limited use of learning media is one of the main reasons for students' low interest in learning. In addition, the conventional nature of the teaching process also contributes to the low learning outcomes of the students.

However, the teacher has already created an enjoyable learning atmosphere and helped students understand the topic of 'Numbers' by using picture media. The pictures, taken from textbooks, were shown to the students, but since the teacher only explained through the book, the students paid less attention to the lesson. Regarding learning media, at first, the students did not pay much attention to the teacher. Yet, with the use of engaging animated videos, students became more interested in following the teacher's explanation of the lesson. Meanwhile, the school facilities are actually sufficient to support the learning process, such as the availability of a projector. This means that teachers can utilize these facilities to develop learning media that are engaging, creative, and capable of motivating students during the lesson. However, the teacher did not use the projector because they did not understand how to operate it.

Based on the problems described above, the researcher intends to develop an animated video learning medium combined with local wisdom to help teachers utilize the available facilities at school, thereby improving mathematics learning outcomes for third-grade students at SDN 008 Beringin Taluk. The medium used in this study is animated video, which integrates audio with moving images. Animated video is a form of art that brings objects or characters to life through a series of images displayed at high speed. The distinctive feature of animation lies in its ability to deliver information visually and interactively, integrating elements of movement, color, and sound to create an engaging and memorable learning experience. The researcher chose animated video as the learning medium because elementary school students are still highly attracted to cartoon animations.

In learning that uses animated videos, the material is presented in an engaging way so that students feel more interested and enjoy the learning process, making it easier for them to understand the subject matter. This is in line with the opinion of Dewi (Nurhasanah & Alfurqan, 2024). The use of animated videos as a learning medium has several benefits, including: 1) Animated media can help students understand complex material more easily. 2) This medium also facilitates teachers in delivering the material to students. 3) The use of animated media has the potential to improve students' satisfaction and achievement. 4) Animated media can optimize students' learning outcomes, attitudes, and learning methods, allowing them to feel more engaged and successful in the learning process. This is in line with the research conducted by (Anggraini, 2021) The use of animated videos has shown very positive results in the development of learning media, falling into the 'feasible' category. Students are more interested and able to understand the material presented

through animated video media. The purpose of using animated videos is to capture students' attention and inspire them to understand the subject matter, both of which influence how well they learn (Adiati et al., 2023).

According to (Mukarromah & Andriana, 2022) The role of teachers in teaching and utilizing learning media has a significant positive impact. In addition to providing convenience for students, teachers can also develop effective teaching strategies and apply various learning models, so that each achievement indicator and learning objective can yield optimal results for students.

Local culture is the native culture created and owned by the indigenous people of a region, which is passed down from one generation to the next (Asril, 2022). Introducing elements of culture and local wisdom, such as the traditional *Pacu Jalur* boat race in Kuantan Singingi, into the learning process is one of the efforts that can be carried out in the field of education. According to Hasbullah (2015), "Local wisdom is a way of life, knowledge, and various life strategies manifested in the activities carried out by local communities to respond to different challenges in meeting their needs. Local wisdom is very important for students and should even be integrated into the subject matter, as education or learning that incorporates local wisdom functions to enable students to preserve their own culture amid the growing influence of external cultures that have begun to penetrate Indonesian society. In mathematics learning, it represents a deliberate and planned effort through the exploration and utilization of local potential in order to create an active learning atmosphere. This allows students to actively develop their potential to acquire skills, knowledge, and attitudes that contribute to nation- and state-building.

It can be concluded that culture and local wisdom are an integral and comprehensive unity of various manifestations produced and practiced within a community. One example is connecting the subject matter being taught with the local culture of the region, such as the culture in Kuantan Singingi.

In line with the research conducted by (Awuni & Isni, 2022) Animated video media with local wisdom can not only be seen but also heard. Such videos are able to attract children's interest and attention, clarify the presentation of ideas, and provide illustrations so that students do not easily forget the material. In addition, according to the research conducted by (Lukman et al., 2019) By using videos, students can easily understand the content because two senses are engaged simultaneously, namely hearing and sight. In addition, the videos are presented in the form of animations that align with the world of children, so that during the presentation, students feel as if

they are watching an animated film, while in fact the message being delivered contains the objects being studied. Meanwhile, according to (Kasmawati et al., 2024) Animated videos based on local wisdom can stimulate students to become more motivated, provide learning without the limitations of space and time, and develop their imagination by observing the different visuals presented in the animation. They also help students to better understand both the learning material and their local culture.

In addition, previous research conducted by Hazanah & Ain (2025) shows that the use of animated videos as a learning medium can significantly improve students' understanding of the lesson, as well as make the process of delivering material more enjoyable and less monotonous. A similar view was also expressed by Sadewo & Purnasari (2021). The developed learning videos based on local culture have characteristics such as being easy for students to understand, attracting students' interest and enthusiasm in learning, and assisting them in studying at home.

However, most of the previous studies have not specifically integrated the local wisdom of Riau into mathematics learning media, particularly in teaching numbers to third-grade elementary school students. As a result, contextual and culturally nuanced learning experiences remain limited. Based on this gap, the present study aims to develop animated video media based on local wisdom that not only presents number material interactively but also instills local cultural values in students, thereby making learning more meaningful and contextual.

Based on this background, the objectives of this research are to: (1) describe the process of developing animated video media based on local wisdom for learning fractions in Grade III at SDN 008 Beringin Taluk, Kuantan Singingi; (2) assess the validity of the media through evaluations by subject matter experts, media experts, language experts, teachers, and students; and (3) evaluate teachers' and students' responses to the media in the learning process. Thus, this study is expected to contribute to improving the effectiveness of mathematics learning while also preserving local cultural values through education.

METHOD

The research method used in this study is Research and Development (R&D), adopting the ADDIE model. According to (Hamidah, 2020) The stages of the ADDIE model are designed to be easy and flexible to implement, and are systematically arranged so that each step can be carried out effectively. The ADDIE model consists of five stages: analysis, design, development,

implementation, and evaluation. However, in this study, the researcher limited the stages to analysis, design, and development only, due to constraints of time, energy, and cost. The data in this study are classified into primary and secondary data. Primary data were obtained directly from research participants, namely three teachers, three third-grade elementary school students, and three experts in mathematics learning media, consisting of two subject matter experts, two media experts, and two language experts. The primary data were collected through interviews, observations, trials, and questionnaires to assess the validity of the developed media and the responses toward it. Meanwhile, secondary data were obtained from documents, literature, and reference sources related to the development of learning media, the curriculum, and relevant mathematics materials.

In this study, the instruments used to collect data included material expert validation sheets, media expert validation sheets, and language expert validation sheets, as well as teacher response questionnaires and student response questionnaires. The data analysis techniques employed in this study were quantitative and qualitative analysis. Qualitative data were obtained from suggestions and comments provided in the validation sheets completed by expert validators, material experts, and language experts. Meanwhile, quantitative data were obtained from the results of validation assessments provided by the validators. The following formula was used to calculate the level of validation and responses:

$$P = \frac{f}{n} \times 100\%$$

P = Presentase
n = The highest score
f = The total data score used

After analyzing the data using the percentage formula described earlier, the results obtained show a percentage that reflects the quality of the learning media product. This percentage indicates the level of feasibility of the media and serves as the basis for revising the product based on the validation results obtained from media experts and material experts, which are presented in the table.

Table 1. Level of Feasibility and Product Revision

No	Criteria	Validation Level
1.	81-100%	Highly Valid
2.	61-80%	Valid
3.	41-60%	Fairly Valid
4.	21-40%	Invalid
5.	0-20%	Highly Invalid

Source: (Lestari et al., 2020)

FINDINGS AND DISCUSSION

Findings

This chapter presents the results of the development process of the animated video media for Mathematics in Grade III of elementary school. The research findings were obtained based on the stages of development that had been carried out, starting from analysis, design, product creation, and up to the validation stage by experts and limited trials with students. The presentation of these results aims to demonstrate how the development process of the media was conducted and to assess the quality of the media produced, based on feedback from subject matter experts, media experts, and student responses. In addition, both quantitative and qualitative data are presented to support the effectiveness and feasibility of the animated video media in facilitating the mathematics learning process. The following section describes the stages undertaken during the research.

Analysis Stage

The purpose of the analysis stage is to identify the possible causes of a learning performance gap (Hidayat & Nizar, 2021). The following are the results of the analysis, consisting of needs analysis and student analysis.

1. Need Analysis

The topic of numbers is one of the essential basic competencies in Mathematics learning for third-grade elementary school students. This material includes the introduction of whole numbers, arithmetic operations (addition, subtraction, multiplication, and division), place value, and their applications in everyday life. However, based on observations and interviews with the third-grade teacher at SDN 008 Beringin, it was found that students still experience difficulties in understanding the concept of numbers, particularly in arithmetic operations and their application in word problems.

The teacher explained that the delivery of number-related material is often limited to lectures and written exercises, which lack concrete visualization. This condition makes it difficult for students to imagine and understand the meaning of calculation processes, especially for those with visual and kinesthetic learning styles. In practice, students tend to memorize the steps without truly understanding the fundamental concept of numbers, such as how numbers are formed or how relationships among numbers can be modeled in real-life situations.

Furthermore, the teacher also stated that the instructional media used have not been able to connect number concepts with students' daily lives. In fact, within the context of local wisdom in Kuantan Singingi, there are many cultural and social activities that can serve as contextual media for teaching number concepts. Therefore, the development of animation-based video media integrating local wisdom is seen as an innovative solution to bridge this gap. By incorporating stories or contextual situations from Kuantan Singingi culture, number-related material can be presented in a more engaging, communicative, and meaningful way.

2. Student Analysis

The analysis of students is also an important consideration in the development of instructional media. Third-grade students, who are generally between 8–9 years old, are in the concrete operational stage according to Piaget's theory. At this stage, students are more likely to understand concepts that are delivered through real-life experiences and concrete visualization. The interview results indicated that most students are more responsive to learning activities that involve pictures, animations, and stories that are closely related to their daily lives. Many students still struggle to distinguish place values of numbers (ones, tens, hundreds) and to perform arithmetic operations correctly when presented abstractly. However, when the material is connected to real-life activities such as buying and selling at the market or counting familiar objects, students' understanding improves significantly.

In addition, students show a strong interest in stories, local characters, and situations that reflect their own culture. For example, when the teacher uses examples involving local places or traditions, students appear more focused and engaged in the learning process. This indicates that media incorporating elements of local culture in the form of animations and simple narratives has great potential to enhance students' engagement and comprehension. Therefore, the animated video media to be developed is designed not only to present number concepts visually and interactively but also to connect the material with the local life of the Kuantan Singingi community, making the

learning process more enjoyable, relevant, and meaningful for students

Stage Design

According to (Waruwu, 2024) the design stage is the process of planning the product to be developed. In this research, the design stage of the animated video media aimed to structure the content and visual appearance of the media so that it corresponds to the characteristics of third-grade students and remains contextual to the local culture of Kuantan Singingi. The video design was divided into several main sections, namely: the cover, presentation of the material, elements of local wisdom, reinforcement through the *Pacu Jalur* culture, and the closing. The following presents the content layout of the animated video media based on local wisdom developed by the researcher:

Figure 1. Cover, Pacu Jalur Cultural Wisdom, Content, and Closing

The first part begins with an engaging and colorful video cover display, as shown in the first illustration. This display presents the title *"Addition and Subtraction of Fractions"* with a visual background resembling a digital educational game. The design was created to capture students' attention from the very beginning and foster enthusiasm for learning.

Following this, the video proceeds to the material section, which introduces the basic concepts of fraction addition and subtraction through engaging visualizations, as illustrated in the third image. The material is presented in the form of a journey map, where students are depicted as if they are exploring an adventure path while solving fraction problems scattered across several points. This format not only facilitates students' understanding of fractions but also enhances their learning motivation, as the learning atmosphere is wrapped in a narrative and game-like experience. The visuals of numbers, colors, and icons are designed to be simple and communicative, in line with the cognitive development level of third-grade students

Next, elements of local wisdom are integrated into the media, as shown in the fourth illustration, where students are depicted at *Taman Jalur* in Taluk Kuantan. The inclusion of a local setting, traditional clothing, and regional logos in the display aims to foster a sense of belonging and pride in their own cultural environment. The animated characters in the video also speak in a communicative and friendly manner, allowing students to feel more connected to the material being

presented.

Subsequently, the reinforcement of local culture is highlighted more specifically through the *Pacu Jalur* segment, as illustrated in the second image. *Pacu Jalur*, a traditional cultural event unique to Kuantan Singingi, is incorporated into the storyline of the video as a learning context for fractions. For example, students are invited to calculate fractions based on the number of rowers, divide groups, or determine the remaining race time using fraction operations. By connecting mathematics to real-life activities familiar to students, this media creates a contextual and meaningful learning experience.

As the closing section, the video presents a summary of the material along with motivational learning messages. The animated characters encourage students to recall the fractions they have learned and provide examples of their application in daily life, such as in buying and selling or sharing food. Local-themed closing music is embedded to leave a positive impression and reinforce cultural values in students' minds. With such a structured design, the developed animated video media not only delivers material in an enjoyable and visual manner but also fosters a love for local culture while enhancing contextual understanding of fraction concepts.

Development Stage

The development stage is the actual process of creating the animated video media product based on the previously prepared design. According to (Rachma et al., 2023) In the development stage, there are two important objectives, namely producing the product and selecting the best version of the product. After the structure and content are designed in the design stage, the next step is to conduct validation or evaluation of all these elements in the form of a complete, interactive animated video media that is ready for testing. Validation is an index that indicates whether an instrument truly measures what it is intended to measure (Ismawati & Mustika, 2021). This process involves validators, teachers, and students to ensure that every component developed aligns with the learning objectives and the local wisdom values intended to be conveyed. The following section presents the validation results from experts as well as the responses from teachers and students.

1. Material Expert Validation

   The material expert validation stage aims to assess the suitability and accuracy of the mathematics learning content presented in the developed animated video media. This validation was conducted by a lecturer who is an expert in elementary school mathematics

education, possessing competencies in curriculum, instructional methods, and educational media development.

Table 2. Material Expert Validation Results

No	Aspect	Validator 1
1	Material Relevance	84%
2	Benefit	80%
	Average	**82%**
	Criteria	Highly Valid

Source: Research Data Processing Results

The validation results from the material expert indicate that the developed animated video media based on local wisdom is categorized as **Highly Valid**, with an average score of 93.3%. This assessment was based on three evaluation aspects: completeness of learning video components (100%), video duration (80%), and characteristics of the video based on local wisdom (100%). The perfect scores in the completeness and characteristics aspects indicate that the mathematics content—specifically fractions—has been presented comprehensively, systematically, and contextually linked to local culture, such as *Pacu Jalur* in Kuantan Singingi. Meanwhile, the 80% score for duration suggests a recommendation to adjust the pacing of the delivery to better match students' abilities. Overall, this media is highly feasible for use in Grade III elementary school mathematics learning in terms of content.

2. Media Expert Validation

The media expert validation stage was conducted to assess the technical feasibility, visual appearance, and presentation quality of the developed animated video media. This validation involved an expert in educational media or educational technology who possesses experience in graphic design, multimedia, and the development of digital content for elementary education. The purpose of this validation is to ensure that the animated video is not only visually appealing but also effective as a learning medium that supports students' understanding of mathematics content.

Table 3. Media Expert Validation Results

No	Aspect	Validator 1
1	Completeness of Learning Video Components	100%
2	Pacing of Video Duration	80%
3.	Characteristics of Animation Video Based on Local Wisdom	100
	Average	**93,3%**
	Criteria	Highly Valid

Source: Research Data Processing Results

Based on the assessment provided by Validator 1, three main aspects were analyzed, namely the completeness of learning video components, video duration pacing, and the characteristics of the animated video based on local wisdom. The results show that the completeness of learning video components received a score of 100%, indicating that all essential elements, such as the cover, content, narration, illustrations, background music, and closing, were organized completely and cohesively. The video duration pacing received a score of 80%, with the note that although the overall duration of the video is suitable for elementary school students, some parts were considered too fast and require pauses to allow students to better understand the material. For the aspect of local wisdom characteristics, the validator gave a score of 100%, indicating that cultural elements such as *Pacu Jalur*, the location of *Taman Jalur* in Kuantan Singingi, and student characters wearing traditional attire were presented strongly and representatively.

Overall, the average score of the media expert validation reached 93.3%, which falls into the "Highly Valid" category. This indicates that the developed animated video media is highly feasible for use in the learning process, both in terms of visual presentation and the local cultural context presented. Nevertheless, the validator's suggestion regarding the pacing of the video serves as valuable input for product refinement, which is expected to further enhance its effectiveness in supporting students' understanding of fraction addition and subtraction.

3. Language Expert Validation

The language expert validation was conducted to ensure that the language used in the animated video media adheres to proper linguistic standards and is easily understood by elementary school students. This validation is crucial because the developed media uses verbal narration and text as the primary means of delivering mathematics content, particularly fractions. Therefore, the language must be communicative, appropriate for the cognitive development of 8–9-year-old children, and reflect the local values presented within the context of the *Pacu Jalur* culture. The following presents the results of the language validation:

Table 4. Language Expert Validation Results

No	Aspect	Validator 1
1	Accuracy and Appropriateness of Language Rules	80%
2	Use of Terms	100%
3.	Concise	100%
4.	Text Accuracy	100%
	Average	**95%**
	Criteria	Highly Valid

Source: Research Data Processing Results

The validation results from the language expert indicate that the local wisdom-based animated video media received an average score of 95%, falling into the **"Highly Valid"** category. The assessment covered four aspects: accuracy and appropriateness of language rules (80%), use of terms (100%), clarity (100%), and text accuracy (100%). The perfect scores in the last three aspects indicate that the language used is precise, clear, and appropriate for the characteristics of Grade III students, and that the terms used in the fractions material are conveyed accurately. The 80% score for language rules suggests minor revisions in sentence structure or spelling to better align with proper Indonesian language conventions. Overall, these results demonstrate that the media is highly feasible from a linguistic perspective for teaching mathematics.

4. Teacher Response

To determine the feasibility of the developed local wisdom-based animated video media, a limited trial was conducted with teachers and students as the direct users of the media. Teachers play a crucial role in evaluating the suitability of the content, the usefulness of the media in the learning process, and its alignment with the characteristics of the students. The following presents the responses from the three teachers at SDN 008 Beringin Taluk regarding the animated video media developed by the researcher.:

Table 5. Teacher Response Results

No	Teacher Name	Score
1	SA	100%
2	R	100%
3.	YD	100%
	Average	**100%**
	Criteria	Highly Valid

Source: Research Data Processing Results

Based on the validation results from the three classroom teachers, the local wisdom-based animated video media received an average score of 100%, falling into the **"Highly Valid"** category. Each teacher, namely SA, R, and YD, gave the maximum rating for the developed media. This indicates that, from the perspective of field practitioners, the media is considered highly appropriate, relevant, and suitable for use in mathematics learning, particularly on the topic of fractions for Grade III students. The perfect score also reflects that the media meets teachers' expectations in terms of content clarity, integration with local culture, and ease of use as a learning aid in the classroom.

5. Student Response

Meanwhile, the student responses were used to assess the extent to which the media could capture attention, enhance understanding, and facilitate learning, particularly in mathematics on the topic of fractions. The following presents the responses from three Grade III students at SDN 008 Beringin Taluk regarding the animated video media developed by the researcher:

Table 6. Student Response Results

No	Teacher Nama	Score
1	D	100%
2	R	100%
3.	A	100%
	Average	**100%**
	Criteria	Highly Valid

Source: Research Data Processing Results

Based on the trial of the media with Grade III students at SDN 008 Beringin Taluk, the responses were highly positive, with the average rating falling into the **"Highly Valid"** category. Students stated that the developed animated video media is very engaging, easy to understand, and enjoyable to watch. They found it easier to comprehend mathematics content, particularly fractions, because it is presented through moving visuals, clear narration, and familiar local cultural contexts such as *Pacu Jalur*. This media not only helps students understand concepts visually but also fosters a sense of pride in their local culture. These results indicate that the local wisdom-based animated video media is effective in enhancing student engagement, motivation, and understanding during the learning process.

This study reinforces the findings of the research conducted by (Latifah et al., 2023) that the developed media facilitates both teachers and students in the learning process, and the quality of the learning media can create a classroom environment that is enjoyable, innovative,

effective, creative, and promotes active student participation. This is in line with the research conducted by (Hani et al., 2024) Animated videos can help students learn to collaborate and become more active in the learning process. In addition, students can retain lessons delivered through animated videos for a longer period compared to learning materials presented using textbooks.

Discussion

Media is an integral part of the teaching and learning process to achieve educational objectives (Ponza et al., 2018). Learning media plays a very important role in ensuring that the material delivered by educators can be received more quickly, easily understood, and comprehended to the fullest by students. The use of video media, specifically animated videos, can elicit a positive response from students (Irawan et al., 2023). Cognitive theory emphasizes the integration or combination of multiple media when used as learning tools, in order to enhance academic performance, such as achieving satisfactory learning outcomes (Zulfiah & Hidayah, 2022). According to (Rahmayanti & Istianah, 2018) Animated video media can serve as a learning tool that is ready to be used anytime to convey specific learning objectives.

According to (Wahyuni et al., 2024) An animated video is a moving image created from a collection of various objects arranged systematically and moving according to a predetermined sequence at each time interval. The advantages of animated video media include the integration of other media elements such as audio, text, video, images, and graphics into a single presentation, allowing its use to be adapted to the situation and condition of the students, thereby making it easier to deliver mathematics learning materials. The use of animated video media can also help students understand the lesson content because the recording can be replayed whenever they feel something is not yet understood, and teachers can pause the video to add explanations. This is also supported by Rusman (Saifullah et al., 2023) stating that one of the advantages of video media is that it can be replayed and paused whenever something is not yet understood. The use of animated videos also provides students with a new learning experience, creating a learning environment that is memorable and engaging for them.

The results of this study indicate that the local wisdom-based animated video media received very high validation levels: 82% from content experts, 93.3% from media experts, 95% from language experts, and 100% from teachers and students. These percentages indicate that the developed media is not only feasible for use but also highly accepted by various stakeholders. The findings

demonstrate that animated video media can bridge students' needs in understanding fraction concepts in a more engaging and meaningful way. When related to Bruner's cognitive learning theory, the success of this media aligns with the stages of enactive–iconic–symbolic representation. Animated videos that combine visuals, audio, and narration help students represent abstract concepts more concretely, facilitating easier comprehension. This supports the view that learning media rich in sensory stimuli can enhance student engagement and understanding of the material being studied.

These findings are also in line with the results of (Kustriani et al., 2023) which shows that by integrating elements of local culture into learning media, such as in the form of animated videos, students not only learn academic subjects like mathematics but also recognize and appreciate their own cultural heritage. This can foster a sense of pride in their hometown while also increasing engagement and motivation, as the material is presented in a context close to their daily lives. Furthermore, this approach makes learning more meaningful and enjoyable, as students can understand abstract concepts, such as fractions, through familiar and contextual illustrations. In addition, according to the results of the research (Wardhani, 2022) Local wisdom-based learning media also facilitate students in understanding each concept in the material because it aligns with their experiences, and the knowledge gained can be applied in their daily lives. In addition to having a positive impact on students, the use of animated videos as learning media can also help teachers become more productive, creative, and innovative in creating an enjoyable learning process. Furthermore, it serves as an effective medium for delivering material, ensuring that the content is conveyed clearly and effectively (Twozia, 2021).

Thus, this study affirms previous findings that animated video media is effective in enhancing mathematics understanding. However, this research presents a significant distinction, namely the integration of *Pacu Jalur* local wisdom values into the media. This aspect adds value by not only improving learning outcomes but also contributing to the preservation of local culture through education.

The implication of this study is that the use of local wisdom-based animated video media can serve as a strategic alternative in elementary school mathematics learning, as it can enhance students' conceptual understanding, foster learning interest, and strengthen the preservation of local culture through the integration of cultural values into the learning material.

CONCLUSION

Based on the validation results and responses obtained, it can be concluded that the local wisdom-based animated video media developed for Grade III mathematics learning, particularly on the topic of fractions, is considered highly valid and feasible for use. Validation results from content experts showed a score of 82%, media experts an average of 93.3%, language experts 95%, and responses from teachers and students reached 100%, all of which fall into the "Highly Valid" category. The integration of local cultural elements, such as Pacu Jalur, has been proven to increase students' learning motivation and strengthen their cultural identity. Therefore, this media is not only effective in delivering mathematics content but also plays a role in preserving local culture through contextual and meaningful learning.

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