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The Effectiveness of Learning Media in Overcoming Learning Difficulties: Student Perceptions

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ABSTRACT

Technology-based learning media have been proven to enhance learning by making it more engaging and increasing student interaction, motivation, and overall learning outcomes. However, few studies discuss students' perceptions of the types of learning media that effectively overcome their learning difficulties. Therefore, this study aims to determine students' perceptions of effective learning media that can help them overcome their learning difficulties. The quantitative descriptive method used in this study was applied to grade X students at SMAN 1 Ketapang, with samples selected using a proportional random sampling technique. Data were collected through Google Forms questionnaires containing both closed and open-ended questions and analyzed using descriptive statistics and thematic analysis. This study's findings suggest that students' learning difficulties are often attributed to a lack of motivation, focus, and drowsiness. The teacher's delivery method also contributes to these difficulties, as it is less engaging, difficult to follow, and does not provide clear examples. This research highlights the importance of interactive learning media tailored to students' motivational and cognitive needs, as well as the need for regulatory and policy support in implementing these learning media. Through a comprehensive discussion, this research contributes to the development of more effective digital learning.

ARTICLE INFORMATION

Keywords:
interactive media; learning difficulties; motivation; student perceptions

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INTRODUCTION

The number of students reporting learning difficulties and requiring attention has increased year by year, both in absolute terms and as a proportion of the total student population (Alsaied, 2024; Brunswick et al., 2025; Chi, 2025). This is in line with Rahman et al. (2024), who reported that learning difficulties in terms of verbal expression amounted to 33% and general studies amounted to 34.04%. One of the external factors contributing to student learning difficulties is the use of traditional teaching methods that overlook student needs (Al-Sarairah, 2024; Madhavi et al., 2024; Munyaruhengeri et al., 2024). Additionally, teachers are less innovative and creative in utilizing learning media (Adapa et al., 2021; Al-Saaidi et al., 2025; Ayu et al., 2021). Meanwhile, internal factors that contribute to learning difficulties include low learning motivation and students' reduced interest in broad or abstract material that is difficult to comprehend (D'Aniello et al., 2020; Yunita, 2021). Much of the material must be memorised, so students have difficulty remembering and understanding concepts that lack physical or concrete examples (Komaro et al., 2020; Mägdefrau et al., 2025; Safitri et al., 2024).

Therefore, innovation in learning is necessary to address students' learning difficulties by providing meaningful learning experiences and supporting their understanding of abstract concepts (Alegre, 2023; Amirseit et al., 2024; Santos et al., 2023). The rapid development of technology today has encouraged teachers to continue innovating in learning, especially in the use of learning media, and has led to increasing use of technology-based learning media in education (Akbar et al., 2023; Herawati et al., 2022). Using learning media has been proven to increase student engagement in

learning (Setiadi et al., 2021). The use of digital-based learning media and gamification elements, such as TikTok or Adobe Flash, is proven to increase student participation and motivation (Arief et al., 2022; Fandini, 2021; Febrianti et al., 2022; Han, 2025; Marisa et al., 2020). The use of learning media also has an impact on improving learning outcomes, for example, in the use of media such as augmented reality, graphic narratives, and videos (Arief et al., 2022; Sriadhi et al., 2022). In addition, using learning media can make the learning process more interesting and interactive, such as gamification media (Andrade & Law, 2021) or mobile learning applications based on Android (Izhar et al., 2022).

Although many media have been created and implemented, many students still struggle to understand learning materials (Mayer, 2020). The effectiveness of learning media is also influenced by students' learning styles (Kieserling & Melle, 2019). The use of learning media can create an unnecessary cognitive load, hindering the actual learning process (Skulmowski & Xu, 2022). Therefore, using learning media presents particular challenges; teachers must use appropriate tools to support students with learning difficulties. For example, digital learning media can increase student engagement, but it can also be a source of distraction. Teachers must balance the use of engaging media with maintaining students' focus on the learning objectives (Pujihastuti et al., 2022; Schiefner-Rohs & Krein, 2023).

There are many studies on the development of learning media, and these have been shown to improve learning outcomes, participation, and motivation (Ahmad et al., 2021; Herawati et al., 2022; Hidayat et al., 2023; Safitri et al., 2022; Widarti et al., 2024; Wilujeng, 2021). Likewise, numerous studies have explored students' perceptions of the application of learning media. For example, research on the use of Quizizz found that students responded positively, expressing happiness and finding the platform easy to use. The use of this medium proved to be effective in learning and increased students' motivation (Al-Jannah et al., 2023). Huda et al. (2025) investigated the use of Canva as a learning medium and found that, according to students, it is easy to use, interactive, and can facilitate independent or group learning. Then, Al-Hafdi and Al-Najdi (2024) found that students responded positively to using chatbots in learning. Chatbots can give students complete control over learning, allowing them to learn anywhere and at any time; students can also easily access and repeat exercises according to their preferences. In other studies, for instance, students' perceptions of Kahoot as a learning medium were 44% positive and 48% excellent. Students also considered Kahoot to be motivating, to increase engagement, to support material comprehension, and to facilitate collaborative learning (Perdana et al., 2020). Similarly, students perceived audio-visual media as enhancing conceptual understanding, making learning more engaging, improving memory, promoting active learning, making lessons more enjoyable, and supporting the development of critical thinking skills (Riva & Handican, 2023). However, there is a lack of research that explicitly addresses students' perceptions of the types of learning media that effectively help them overcome their learning difficulties. It is essential to examine in depth how students perceive learning media as a means of overcoming such difficulties, as each student has a unique learning style. Accordingly, the use of learning media implemented by teachers can accommodate the diverse learning styles of students. Therefore, this study aims to find out students' perceptions of effective learning media that can help them overcome their learning difficulties.

METHOD

This research employs a quantitative descriptive method, a research approach that systematically and objectively describes phenomena based on numerical data obtained from respondents (Creswell & Creswell, 2018). Through this method, researchers can systematically collect data and numerical measurements, enabling them to describe, summarize, and analyze variables in a

structured manner, and to analyze data in detail and accurately (Alford & Teater, 2025; Vetter, 2017). This method was chosen because it enables the study to provide a systematic and objective description of students' perceptions of learning media during the learning process, which may support them in overcoming learning difficulties (Buchholz, 2021; England, 2022).

The research was conducted at SMAN 1 Ketapang with tenth-grade students. The population in this study consisted of tenth-grade students at SMAN 1 Ketapang, comprising eight classes. Each class has 37 students, resulting in a total population of 296. The sample was selected using a proportional random sampling technique, with a 10% proportion of the population from each class. According to Mu et al. (2023), proportional random sampling can significantly improve the quality and reliability of research findings by ensuring that the sample accurately reflects the population's structure. The proportion of respondents across categories is presented in Table 1.

Table 1. Calculation of the Number of Respondents

Class	Number of Students (Population per Class)	10% of Total Students	Number of Samples (rounding)
XA	37	3.7	4
XB	37	3.7	4
XC	37	3.7	4
XD	37	3.7	4
XE	37	3.7	4
XF	37	3.7	4
XG	37	3.7	4
XH	37	3.7	4
Total	296		32

Data collection in this study was conducted through a questionnaire distributed to respondents via Google Forms. The questionnaire was designed in a mixed format, including both closed and open-ended questions. Closed-ended questions were used to obtain responses that could be measured and analysed statistically (Håkonsen et al., 2021). Statistical analysis was conducted using a questionnaire that employed a four-point Likert scale: strongly agree (4), agree (3), disagree (2), and strongly disagree (1). On the other hand, open-ended questions were included to gather more detailed information and capture the complexity of opinions, allowing participants to express their answers more freely (Aznar-Mas et al., 2023; Newton et al., 2024). Open-ended questions also helped to elaborate on responses to the closed questions, providing context and explaining the reasons behind confident choices or behaviors. They thus contributed to a deeper understanding of things that cannot be captured by quantitative data alone (González, 2023; Newton et al., 2024). Combining these questionnaires results in more comprehensive data, greater depth of information, and increased respondent satisfaction.

The instruments in this study were designed based on learning media indicators and student learning difficulties. These instruments were then validated by experts (expert judgment) with relevant knowledge and experience in research, whose competence can evaluate and clarify the question items on each indicator (Juárez-Hernández & Tobón, 2018; Loureiro et al., 2024). The instrument was empirically tested through a pilot test. Instrument testing helps improve the sensitivity, reliability, reproducibility, and quality control of research instruments. This is crucial to ensuring that research findings are accurate and can be used confidently to inform policy and practice (Angelette et al., 2023; DeVille & DeVille, 2024; Sørensen et al., 2022). The instrument's validity was analyzed using Product-Moment correlation, while Cronbach's Alpha coefficient measured its reliability to ensure internal consistency (Kalkbrenner, 2023; Sathasivam et al., 2022).

RESULTS AND DISCUSSION

The instrument was empirically tested on 30 students and then analyzed using Product-Moment correlation. Initially, 24 questions were developed to elaborate on nine indicators. However, seven questions were eliminated because they had a significance value of more than 0.05, leaving 17 questions that could be used as research instruments. Meanwhile, the Cronbach's Alpha value obtained was 0.963, meaning the instrument passed the reliability test. Respondents were asked about two aspects of this study. First, aspects of learning difficulties faced by students during classroom learning. Second, aspects of learning media that are effective in helping their learning difficulties. The following table presents the aspects and indicators used in this study.

Table 2. Aspects and Indicators of Research

Aspect	Indicator	Number of Problem Items
Learning difficulties	Traditional teaching methods	1
	Lack of learning media Innovation	1
	Difficulty understanding the material	3
	Low motivation	1
Learning Media	Usability and Presentation	2
	Engagement and Motivation	3
	Interactive Elements	3
	Student Interaction	1
	Customization	2
Total		17

The following are the results of the descriptive statistical analysis conducted on 32 respondents, presented in Table 3, based on the question indicators.

Table 3. Frequency of Response

Aspect	Indicator	No Item	Strongly Agree	Agree	Agree to Disagree	Strongly Disagree	Mean	Mode
Learning difficulties	Traditional teaching methods	1	2	16	13	1	2.59	3
	Lack of learning media Innovation	2	8	18	6	0	3.06	3
	Difficulty understanding the material	3	4	19	9	0	2.84	3
		4	6	16	8	2	2.81	3
		5	4	15	11	2	2.66	3
	Low motivation	6	5	11	15	1	2.63	2
Learning Media	Usability and Presentation	7	21	11	0	0	3.66	4
		8	7	20	5	0	3.06	3
	Engagement and Motivation	9	11	20	1	0	3.31	3
		10	12	16	4	0	3.25	3
		11	3	24	5	0	2.94	3
	Interactive Elements	12	14	14	4	0	3.31	4
		13	12	16	4	0	3.25	3
		14	6	21	5	0	3.03	3
	Student Interaction	15	9	18	5	0	3.13	3
	Customization	16	5	21	6	0	2.97	3
		17	6	23	3	0	3.09	3

Table 3 shows that respondents' answers generally tend to fall within the ‘agree’ category. This is evident in the mean scores for each indicator. For example, in the learning difficulty aspect indicator, the scores included traditional teaching methods, lack of learning media innovation, difficulty in understanding the material, and low motivation. Similarly, the indicators of learning media aspects are usability and presentation, engagement and motivation, interactive elements, student interaction, and customization. The mode for each indicator aspect also shows that the most frequent response was ‘agree.’

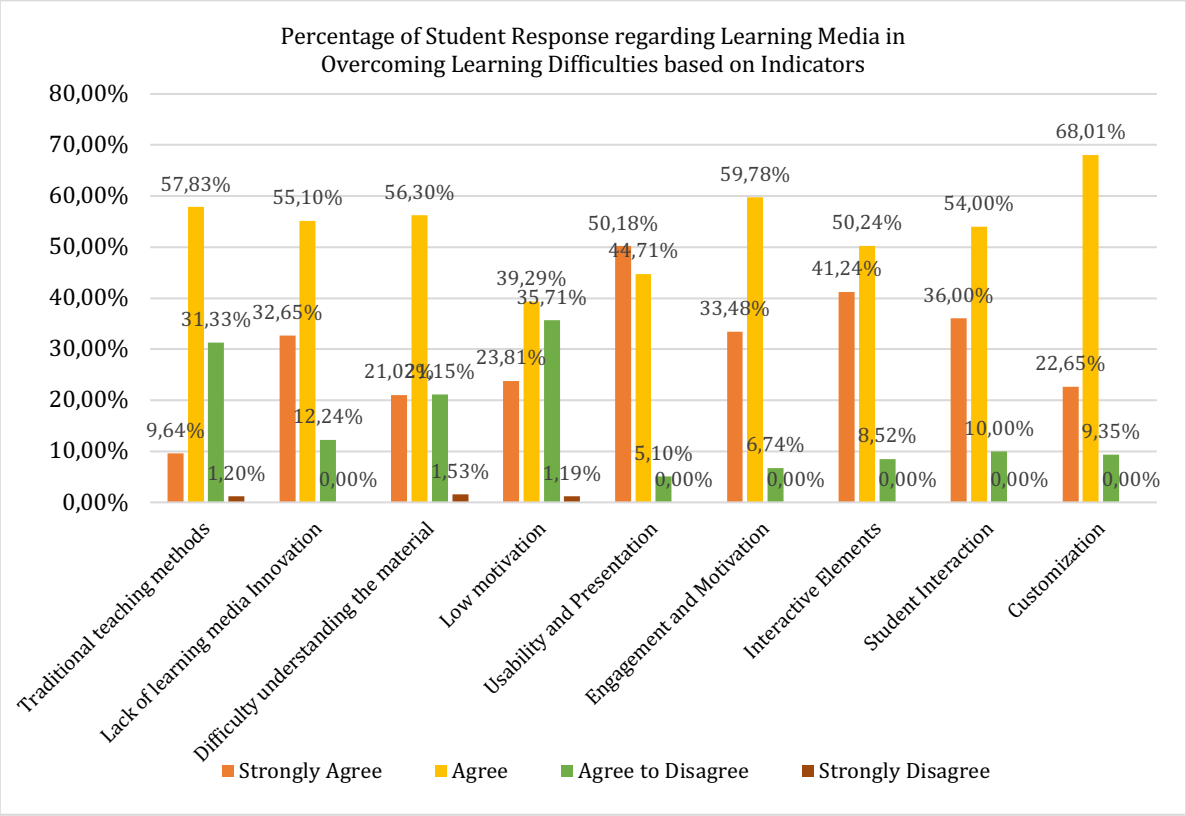

Figure 1. Analysis of the Effectiveness of Learning Media to Overcome Student Learning Difficulties

In the aspect of learning difficulties, there are four indicators. First, the indicator of traditional teaching methods related to the lack of variety in teaching approaches can make it difficult for students to understand the material. Most students agreed and strongly agreed that teachers still lack variety in the use of learning media. However, a small proportion of students felt that teachers had already incorporated varied media in their teaching. Regarding the second indicator—lack of innovation in learning media—most students strongly agreed and agreed that innovative and engaging tools are needed to support their understanding of social studies material, for example, by using educational games, interactive quizzes, or simulations during lessons.

Third, the indicator of difficulty understanding the material. The dominant student response was "agreed" and "strongly agreed." This suggests that most students struggle to comprehend social studies material due to its broad scope, and the delivery of social studies content often lacks real-world examples. In addition, when teachers explain the material without using adequate media, such as learning videos, animations, or other visualization tools, it limits support for students’ understanding of social studies material. Fourth, the indicator of low motivation. Most students agreed and strongly agreed that they were less motivated to learn because teachers did not use videos,

animations, or other visual tools as teaching media. However, a few students felt it did not affect their learning motivation.

In the aspect of using learning media, there are five indicators. First, the practicality indicator means that the media must be easy to use and present. The dominant student responses were 'strongly agree' and 'agree,' indicating a need for learning media that is engaging, easy to understand, and user-friendly so that it can help them grasp social studies subject matter. Second, the indicator of involvement and motivation means that learning media can increase student participation during lessons. The dominant student responses were that they would strongly agree to participate and be motivated if the teacher used interesting learning media, such as learning videos, educational games, or learning applications.

Third, the interactive element indicator means that learning media must have interactive features such as videos, animations, and interactive questions. The dominant student responses were 'strongly agree' and 'agree'; this indicates that learning media must have interactive features to help them understand the learning material. Fourth, the customization indicator means that learning media facilitate student interaction, encourage active learning, and enhance students' critical thinking. Students' responses mainly were 'strongly agree' and 'agree,' indicating that they feel more engaged in learning when the learning media features interactive elements such as educational games, learning applications, or simulations. However, a few students disagreed that they need interactive learning media to make them more active in learning.

Fifth, the customization indicator means that learning media must be adapted to meet the diverse learning styles and needs of students. Most student responses indicated a strong agreement that learning media should contain material in the form of text, images, and learning videos, allowing students to understand the material according to their learning style. However, some student responses disagreed that diverse learning media effectively meet the needs of their learning styles.

The results of qualitative data analysis from open-ended questions regarding aspects of learning difficulties faced by students indicate that these difficulties are primarily due to a lack of motivation, lack of focus, and drowsiness. Other reasons include the teacher explaining the material as being less interesting, the explanation being difficult to understand, and the teacher not providing real-life examples. As stated by respondent number 5: "My difficulty is fighting laziness, the teaching method of the teacher is less interesting, and the explanation is too fast, making it difficult to understand the material presented." Similarly, respondent number 30 said: "Lack of focus during learning and delivery of material that is less interesting." These responses emphasize that the internal factors contributing to learning difficulties faced by students include a lack of motivation, lack of focus, and tiredness. Learning motivation is a crucial prerequisite for successful learning (Ho & Lee, 2024). Meanwhile, students' motivation to learn can be influenced by students' positive attitude towards education; if learners have a positive attitude, they will be more focused and serious when taking lessons (Widiastuti & Fahmi, 2024). Therefore, it is necessary to use learning media, especially interactive learning media, to increase students' motivation and interest in learning (Elmunsyah et al., 2023).

In addition, learning difficulties are also influenced by external factors, particularly the way the teacher explains the material, which may be less interesting, difficult to understand, and does not provide real examples. Therefore, teachers need to be able to adjust their teaching strategies to suit students' learning styles in order to reduce the learning difficulties faced by students (Lamiri et al., 2020). To address this, particularly for successful learning in the classroom, one key supporting component is learning media (Lisnawati, 2021). The use of learning media by teachers is essential, as it helps them convey subject matter more clearly, thereby making it easier for students to understand lessons (Lisnawati, 2021; Ratnawati et al., 2021). The use of appropriate learning media has been

proven to increase student enthusiasm and motivation to learn significantly. For example, by using interactive learning media, multimedia can attract students' attention, making learning more engaging (Go et al., 2023; Rahim et al., 2022). The next question about learning media that can help overcome students' learning difficulties revealed that most respondents' answers shared a similar tendency to require engaging learning media, such as using mobile phones, audio, learning videos, quizzes, and interactive simulations. The responses to this open-ended question reinforce the existing statistical data. According to respondent number 29, learning media should "present material visually and interestingly so that it can increase understanding and interest in learning." Meanwhile, respondent number 16 revealed that "effective learning media to overcome learning difficulties are interactive, visual-audio, easy to access, provide immediate feedback, and suit learning styles. Media such as educational learning apps and interactive simulations are beneficial in understanding and retaining material". The answer to the question regarding students' expectations for the learning media used by teachers is to utilize interesting and creative learning media. For example, teachers can use the internet, as students are very familiar with it.

Additionally, mobile-phone-based learning media that displays animated learning videos and educational games can be used. This is expressed by respondent number 21, who stated, "Teachers can try to use learning media such as online quizzes, visualized material with images, and more interesting online learning platforms to increase student interaction and understanding." Similarly, respondent 32 said, "Teachers should use learning media such as videos, educational games, and others." Therefore, it is important to use learning media types that match and accommodate students' learning styles, for example, visual, auditory, or kinesthetic learning styles, so that students have the opportunity to learn in the way that suits them best (Rahim et al., 2022; Supriatna et al., 2020; Taurusta et al., 2019). Mayer (2002) has proposed the Dual Channel theory, which states that humans have two separate channels for processing information: the visual channel, which involves images, and the auditory channel, which involves words. Therefore, if the learning media presented contains these two types of information, it can enhance students' understanding.

Quantitative and qualitative data have been described, showing that students face learning difficulties influenced by a lack of motivation, lack of focus, or the teacher's unengaging delivery of subject matter. Therefore, the use of learning media is crucial in facilitating the learning process in the classroom. Responses from respondents also indicate that one effective way to overcome learning difficulties is to utilize engaging learning media. In line with this, Supriatna et al. (2020) stated that learning media play an important role and function in learning; it should contain text, sound, images, audio animation, and video, allowing students to understand information quickly and efficiently. A crucial element that must be present in learning media is text, which is written content or material that contains information or instructions for using the learning media. The next element is images or graphics, which are related to visualization tools to help illustrate concepts or as a reminder of information. The next element is audio, which contains sounds such as narration, music, or sound effects that can help students enhance their understanding of the material. The last element is animation, which is a dynamic video that simplifies complex material, making it easier to understand and maintaining student interest in learning (Lisnawati, 2021; Praveen et al., 2024).

The existence of this learning media also increases the effectiveness of learning (Teapon & Kusumah, 2023), especially if the use of learning media is integrated with technology; it can stimulate student creativity and help the learning process become more interesting; students are also encouraged to learn independently (Akbar et al., 2023; Ratnawati et al., 2021). Furthermore, the use of learning media has had a positive impact on improving student learning outcomes-for example, the use of videos, digital comics, virtual reality, augmented reality, gamification, word walls, or educational games (Anggrawan et al., 2023; Arief et al., 2022; Deta et al., 2021; Haryana et al., 2022;

Sumilat et al., 2022; Syari'ati et al., 2024; Zunidar & Suwandi, 2025). This further highlights the significant role of media in learning. Learning media has been proven to increase student involvement in learning, as well as improve students' learning experiences, allowing them to build their understanding and knowledge.

Therefore, teachers play a central role in presenting learning materials that can engage students and help them overcome the learning difficulties they face. The Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers states that one of the competencies that teachers must possess is pedagogical competence, namely the ability of a teacher to build a conducive learning atmosphere, design learning activities that adapt to the diversity of styles and levels of student ability, and apply appropriate teaching methods so that students are actively involved in the learning process that is valuable and useful (Mariscal et al., 2023).

The scope of pedagogical competence is increasingly broad, particularly in terms of mastering technology to support learning. Therefore, teachers must master technology to support 21st-century learning (Rudini & Saputra, 2022; Yadav, 2023). This is in line with Mishra and Koehler (2006) in the TPACK (Technological Pedagogical Content Knowledge) theory, which states that a teacher's ability is related to mastery of material (content knowledge), knowledge of strategies, learning theories, and classroom management (pedagogical knowledge), and the ability to use technology in learning such as computers or applications (technological knowledge), to teach effectively with technology, teachers need to integrate these three types of knowledge (Mishra & Koehler, 2006). Integrating these three types of knowledge can design learning to be more interesting and effective; it can also increase student motivation and foster critical thinking skills (Mgeladze et al., 2024).

The development of engaging learning media incorporating various elements of text, video, and audio certainly requires teacher readiness; the most important thing is that teachers need to realise that the presence of learning media in classroom learning is crucial and cannot be taken lightly. This awareness will encourage teachers to continue innovating and providing effective learning experiences for students through the use of learning media. However, teachers also have obstacles and challenges in using learning media. Among them are teachers who struggle to master technology, finding it challenging to develop or utilize technology-based learning media. According to Agonas et al. (2024), teachers face significant challenges in integrating technology into their teaching, especially when considering factors such as age, length of service, position, or the number of training sessions attended. Encouragement and support through regulations for teachers to continue developing their professionalism must be maintained, allowing them to upgrade their abilities, especially in the use of technology in learning. However, it is also necessary to pay attention to ensure that this professional development training does not divert teachers from their primary task of teaching. Therefore, finding time for this training amidst teachers' routine tasks is also a challenge in itself (Zaghloul & Rabeh, 2020). Another challenge that affects teachers using learning media is the limited technology. There are still many schools that do not have adequate facilities and infrastructure to develop and implement learning media, especially those based on technology; this is supported by Fayanto et al. (2023) and Darojat et al. (2025), who state that the unequal access to education in Indonesia, in remote areas there are still very few educational facilities and are significantly behind in access to technology.

Suppose it is related to facilities and infrastructure. In that case, implementing technology-based learning media will not be easy; therefore, the state must play a greater role in achieving an equal distribution of educational facilities and infrastructure. Amidst the challenges in implementing learning media, this research enriches the literature on the importance of learning media that are both technically effective and, engaging and interactive as a key means to increase student motivation and engagement. In addition, students' perceptions, as the key to the success of learning media, encourage the development of media that are more responsive and appropriate to their needs. Thus, this

research provides a strong empirical basis for developing more integrative and technology-based learning strategies that are more effective, holistic, and centered on students' needs, which can be implemented in future educational contexts. Although, in the end, the use of learning media in the classroom is not only necessary to overcome students' learning difficulties, its application also requires the attention of the state to encourage the regulation of teacher professional development. Equally important is the effort to equalize educational facilities and infrastructure.

CONCLUSION

Students' perceptions of their learning difficulties are due to internal factors, namely lack of motivation, not focusing on learning, or being sleepy; in addition, there are also external factors that influence, namely because the teacher's delivery method is not interesting, the explanation is not understood or does not provide real-life examples. Then, the students' perceptions about overcoming learning difficulties in the classroom require interesting learning media, which include videos, audio, images, interactive quizzes, or learning simulations. Based on Mayer's Dual Channel theory, the existence of two types of information —visual and auditory—can improve students' understanding of the material. Learning media have been proven to increase student involvement in learning outcomes. Therefore, the existence of learning media is essential. The implications of this study underscore the importance of utilizing learning media in the learning process, prompting teachers to continually develop their skills in mastering technology to use and apply learning media in the classroom effectively. The state needs to prioritize equalizing educational facilities and infrastructure, particularly in remote areas, to support the sustainable development of the teaching profession, ensuring equal access to education across cities and villages. Applying the results of this research by integrating engaging and interactive technology-based learning media in the classroom is expected to significantly improve students' motivation, focus, and learning outcomes. Using appropriate learning media can help reduce learning difficulties and increase student engagement in the learning process. In addition, by enhancing teacher competence in utilizing technology and equalizing educational facilities, the quality of learning and student outcomes can improve, particularly in remote areas that have been experiencing limitations. Future research is recommended to focus on improving and evaluating teacher training programs using technology-based learning media and analyzing their impact on enhancing teaching skills and student learning outcomes.

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