Multidiciplinary Output Research For Actual and International Issue (MORFAI Journal) ISSN (e): 2808-6635
Volumes 5 No. 5 (2025)

ANALYSIS OF THE NEEDS OF USING VIDEO MEDIA IN MATHEMATICS LEARNING FOR GRADE VI ELEMENTARY SCHOOL STUDENTS

Eva Solina[1], Somakim[2], Farida R Wargadalem[3]
[1,2,3] Universitas Sriwijaya
COrresponding Email: evasolina48@guru.sd.belajar.id[1], somakim@fkip.unsri.ac.id[2], farida_wd@fkip.unsri.ac.id[3]

Received	: 20 May 2025	Published	: 03 July 2025
Revised	: 30 May 2025	DOI	: https://doi.org/10.54443/morfai.v5i5.3289
Accepted	: 17 June 2025	Link Publish	: https://radjapublika.com/index.php/MORFAI/article/view/3289

Abstract

This study aims to analyze the needs of students and educators for mathematics learning media that are in accordance with the characteristics of elementary school students and contextual approaches such as PMRI (Indonesian Realistic Mathematics Approach). The main problem raised in this study is the low interest and understanding of students in mathematics material caused by the lack of use of interesting learning media. The method used in this study is a descriptive method with a quantitative approach. Data collection was carried out by distributing questionnaires using Google Form to 30 grade VI students and 3 teachers at SD Negeri 3 Babat. The questionnaire instrument was designed to measure various aspects of the needs of students, educators, and learning media. The results of the analysis showed that students wanted media that was relevant (100%), interactive (98.55%), visually appealing (100%), helped understanding (100%), and was short in duration (97.05%). Meanwhile, educators assessed all aspects of the learning media proposed in the questionnaire as important and very much needed with a percentage of 100% for all indicators, including suitability with the PMRI approach, ease of access, and the existence of practice questions. This result is also supported by the analysis of media needs which shows a percentage of 100% in all indicators. This finding is an important basis for the development of more effective learning media and in accordance with real needs in learning mathematics in elementary schools.

Keywords: ***Needs Analysis, Learning Media, Mathematics, PMRI, Elementary School.***

1. INTRODUCTION

Mathematics learning in elementary schools has an important role in forming logical, analytical, and systematic thinking skills (Fauzi et al., 2024). However, the reality in the field shows that the mathematics learning process is still colored by various problems, especially for grade VI elementary school students (Chusniah, nd; Sahid et al., 2024; Simamora & Winardi, 2024). One of the main problems is the low interest and understanding of students in mathematics material, which is indicated by learning outcomes that are still below the Minimum Completion Criteria (KKM). This phenomenon is caused by several factors, including learning methods that are not yet contextual, less interesting learning media, and the lack of integration of approaches that are appropriate to the characteristics of elementary school students (Heriyanto et al., 2024; Nisaa et al., 2024). Approach Realistic Mathematics Education (RME), or in the Indonesian context known as PMRI (Realistic Mathematics Education Indonesia), offers contextual solutions by linking mathematical concepts to real situations (Ediyanto et al., 2020). PMRI emphasizes problem solving and reflective thinking, whichbelieved to help students understand concepts better.

However, the implementation of PMRI in the field is often not optimal due to the limited learning media that support this approach (Ekaputra et al., 2024; Sahid et al., 2024). In today's digital era, learning videos are a potential media to support PMRI (Amaliyah) based learning processes (&Darmawan, 2024; Ginting & Afifah, 2022; Mahmudi et al., 2023). Learning videos designed with PMRI principles can present real contexts, animations, andvisualization that can improve students' understanding and motivation to learn (Mahmudi et al., 2023; Suseno et al., 2020). Therefore, this study was conducted to analyze the need for developing PMRI-based mathematics learning videos for grade VI elementary school students (Ratinho & Martins, 2023). The purpose of this study was to describe the needs of teachers and students for PMRI-based mathematics learning videos and to identify the characteristics of learning videos that are appropriate to the context of learning in elementary schools. The results of this study are

expected to contribute to the development of innovative and relevant learning media for mathematics learning needs in elementary schools (Eprilia et al., 2023; Mukarima et al., 2024).

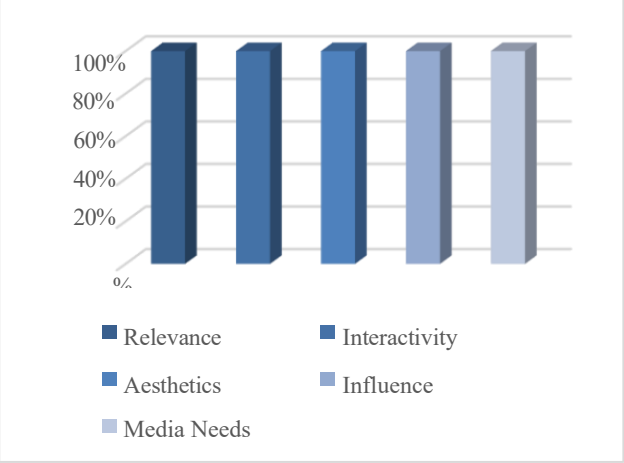
2. METHOD

This study uses a quantitative descriptive approach with a survey method (Christiawan, 2024; Winarni et al., 2020). The purpose of this study is to analyze the needs of students, teachers, and learning media in framework for developing PMRI-based mathematics learning videos for grade VI elementary school students. Data collection techniques were carried out by distributing questionnaire sheets (Meity et al., 2018). The subjects in this study consisted of 30 students and 3 teachers at SD Negeri 3 Babat. The questionnaire was prepared to obtain information about students' learning needs, the suitability of the material with the PMRI approach, and the availability and effectiveness of the learning media that had been used. The data obtained from the questionnaire results were analyzed quantitatively by calculating the percentage of each statement item, then interpreted to describe the actual needs in the field. The results of this needs analysis became the basis for designing learning media in the form of videos that were in accordance with the PMRI approach and the characteristics of elementary school students.

3. RESEARCH RESULT

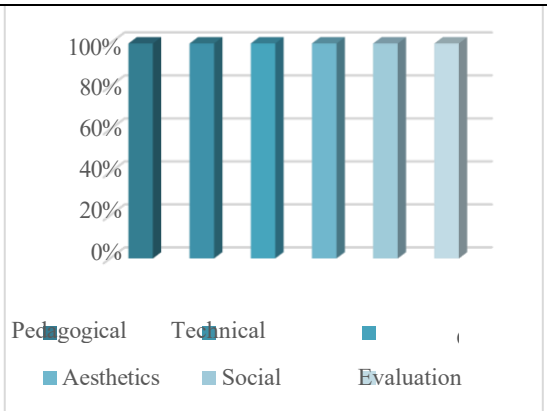
Needs analysis is an important initial step to understand the actual conditions in the mathematics learning process in elementary schools (Tabuk & Banjar, 2023). In this activity, researchers conducted three types of analysis, namely student analysis, educator analysis, and analysis of the learning media used. These three analyses aim to obtain a comprehensive picture of the obstacles and needs in the implementation mathematics learning in grade VI. Data collection was carried out by distributing online questionnaires using Google Forms. The subjects in this analysis were grade VI students and mathematics teachers at SD Negeri 3 Babat, consisting of 30 students and 3 teachers.

Figure 1. Analysis of Student Needs



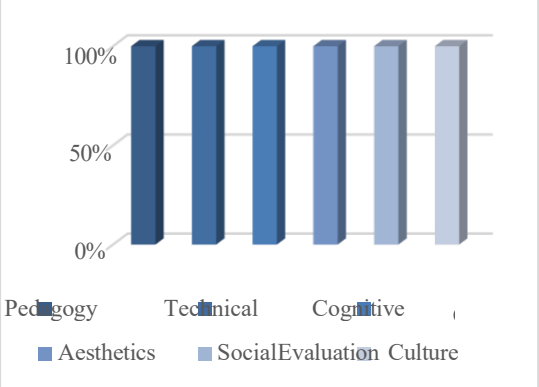
The results of the analysis of student needs show that the relevance aspect obtained a percentage of 100%, the interactivity aspect was 98.55%, the aesthetic aspect was 100%, the influence aspect on learning was 100%, and the media needs aspect was 97.05%. The researcher then conducted a teacher needs analysis with the aim of obtaining information related to mathematics learning.

Figure 2. Educator Needs Analysis



The analysis of educators' needs shows that all aspects obtain a percentage of 100%, namely pedagogical, technical, cognitive, aesthetic, socio-cultural, and evaluation aspects. Finally, the researcher conducted an analysis of media needs for students and teachers with the same aspects.

Figure 3. Media Needs Analysis



Analysis media needs show that all aspects obtain a percentage of 100%, namely pedagogical, technical, cognitive, aesthetic, socio-cultural, and evaluation aspects.

DISCUSSION

Needs analysis is an important initial step taken by researchers to identify problems and the level of needs of students in the mathematics learning process (Delivery & Kunci, 2025). In this context, researchers conduct needs analysis to determine the extent of students' understanding of mathematics material and the obstacles they face during the learning process. To obtain relevant data, researchers distribute questionnairesonline to students and educators at SD Negeri 3 Babat. A total of 30 grade VI students and 3 teachers have provided answers to the questionnaire containing a number of questions related to interest in learning mathematics, the suitability of learning media, and challenges in teaching and understanding the material. Through the results of this questionnaire, researchers can obtain a clear picture of the real needs in mathematics learning, both from the perspective of students and educators, so that the results of this analysis become an important basis for improving and increasing the effectiveness of the learning process in elementary schools.

Table 1. Identification of Student Needs Analysis Results

%	Data Results	
100%	Participant	educate want math lessons according to
98.55%	Participant	educate like interactive learning media
100%	Students like video media	Which attractive, colorful and clear sound

100%	Videos make students understand the material better and have fun.

Identification of the results of the analysis of student needs shows that the majority of respondents gave very positive responses to various aspects of mathematics learning.As many as 100% of students want mathematics learning materials to be delivered appropriately and contextually. As many as 98.55% of students stated that they like interactive learning media. In addition, 100% of students like media in the form of videos that are interesting, colorful, and have clear sound. This is also reinforced by the results that 100% of students feel that learning videos make them understand the material better and make the learning process more enjoyable. Finally, as many as 97.05% of students want learning videos that are short, concise, and clear. These findings indicate that students need learning media that are visually appealing, easy to understand, and in accordance with their characteristics and needs.

Table 2. Identification of Results of Educator Needs Analysis

%	Data Results
100%	Media learning can help students understand concepts with the PMRI approach
100%	Ease of access
100%	Educators need media that is appropriate for students
100%	Educators want learning media in the form of videos
100%	The content reflects the culture and surrounding environment.
100%	There are practice questions at the end of the video

Identification of the results of the educator needs analysis showed that all respondents gave uniform responses to various aspects of learning media. As many as 100% of educators stated that learning media can help students understand concepts with the PMRI approach. All educators also emphasized the importance of ease of access, suitability of media to student characteristics, and preference for media in the form of videos. In addition, 100% of educators wanted learning content to reflect the surrounding culture and environment, and include practice questions at the end of the video as a form of evaluation.

Table 3. Identification of Media Needs Analysis Results

%	Data Results
100%	Media can help understand lesson mathematics and fun
100%	Easily accessible and flexible
100%	Media descriptions should be easy to understand
100%	The display of colors, images, and sound is made attractive and clear.
100%	Media known to students
100%	There are practice questions at the end of the video

The results of the media needs analysis show that all respondents gave positive responses to various criteria for learning media needed. As many as 100% of respondents stated that media must be able to help understand

mathematics lessons while making learning fun. In addition, the media is expected to be easily accessible, flexible, and have easy-to-understand explanations. All respondents also emphasized the importance of an attractive media display with clear colors, images, and sound. The media used should be familiar to students, and equipped with practice questions at the end of the video as a form of material reinforcement. From the questionnaire data, it can be seen that both students and educators have high expectations for interactive, interesting, easily accessible, and relevant learning media to their needs and learning environment. The suitability of media with the characteristics of elementary school students is something that is very important in supporting the effectiveness of the mathematics learning process. Thus, the results of this needs analysis become an important basis for planning learning that is more contextual, meaningful, and able to improve students' understanding and motivation to learn in mathematics subjects.

4. CONCLUSION

Based on the results of the needs analysis conducted on students, educators, and media at SD Negeri 3 Babat, it can be concluded that all respondents showed a high need for interactive, interesting, easily accessible mathematics learning media that are in accordance with a contextual approach such as PMRI. Students want media that is relevant, colorful, accompanied by clear sound, and has a short duration but dense content. Educators also stated the need for media that supports conceptual understanding, is in accordance with the characteristics of students, and reflects the culture and environment. This shows that effective learning media is an urgent need in the process of learning mathematics in elementary schools. As a suggestion, the results of this analysis can be the basis for developing more contextual learning media that are in accordance with real needs in the field. Further researchers are advised to develop media based on the PMRI approach in the form of videos or other interactive formats, and to conduct trials to determine the effectiveness of the media in improving student understanding. In addition, further research can expand the scope of respondents and school contexts so that the results obtained can be more general and applicable in various learning conditions.

REFERENCES

Amaliyah, A., & Darmawan, D. (2024). *Learning Management System* dalam Mewujudkan Pendidikan Karakter. *Journal of Education and Islamic Studies (JEIS)*, *1*(1), 20–32. https://doi.org/10.62083/t43kss29

Christiawan, D. (2024). Pengukuran Daya Saing Kabupaten Blora Dengan Analisis Location Quotient Dan Shift Share. *Jurnal Ilmiah Multidisiplin*, *3*(02), 126– 137. https://doi.org/10.56127/jukim.v3i 02.1463

Chusniah, R. (n.d.). *Analisis Kebutuhan Penggunaan Media Pembelajaran Berbasis Teknologi Di Sma Kelas X Shalahuddin Kota*.

Delivery, C. O., & Kunci, K. (2025). *3 1,2,3*. *4*(3), 173–178.

Ediyanto, Gistituati, N., Fitria, Y., & Zikri, A. (2020). Pengaruh Pendekatan Realistic Mathematic Education Terhadap Motivasi dan Hasil Belajar. *Jurnal Basicedu*, *4*(1), 203–209.

Ekaputra, F., Fuldiaratman, F., Rusdi, M., Dewi, F., & Theis, R. (2024). Pelatihan Pengembangan Keterampilan Guru SMA Melalui Pembuatan Flipbook Sebagai Sumber Belajar Mandiri. *I-Com: Indonesian Community Journal*, *4*(3), 1843–1850. https://doi.org/10.33379/icom.v4i 3.5095

Eprilia, W., Raharjo, M., & Nurhasan, N. (2023). Analisis Kebutuhan Model Pbl Berbasis Video Boneka Interaktif Pada Materi Zakat Di Sekolah Dasar. *Dharmas Education Journal (DE_Journal)*, *4*(2), 659–668. https://doi.org/10.56667/dejourna l.v4i2.1140

Fauzi, H., Yaniawati, R. P., & Sari, N. M. (2024). Penerapan pembelajaran computer-based learning dalam upaya meningkatkan kemampuan pemahaman matematika siswa. *Jurnal Inovasi Pembelajaran Matematika: PowerMathEdu*, *3*(2), 225–240. https://doi.org/10.31980/pme.v3i 2.1671

Ginting, B. P., & Afifah, L. (2022). Penggunaan Google Sites sebagai Media Pembelajaran Interaktif Bahasa Jerman untuk Siswa Kelas X SMA Laboratorium UM. *JoLLA: Journal of Language, Literature, and Arts*, *2*(9), 1221– 1237. https://doi.org/10.17977/um064v 2i92022p1221-1237

Heriyanto, D., Rusdi, R., & Yantoro, Y. (2024). Analisis kebutuhan pengembangan E-LKPD untuk meningkatkan ketertarikan siswa dalam proses pembelajaran matematika. *Math Didactic: Jurnal Pendidikan Matematika*, *10*(1), 83–92. https://doi.org/10.33654/math.v1 0i1.2636

Mahmudi, M. R., Apriani, R., & ... (2023) Pengembangan Video PembelajaraN Menggunakan Aplikasi Capcut Untuk Melatih Keterampilan Menyimak Pelajaran Bahasa *Jurnal Bastra (Bahasa Dan …*, *8*(4). https://doi.org/10.36709/bastra.v 8i4.226

Meity, N., Ernawati, Safra, & Yunita. (2018). Pengaruh metode. *Jurnal Keperawatan*, *8*(1), 814–818.

Mukarima, U. S., Wawan, W., Setiawan, A., Ningsih, E. F., & Choirudin, C. (2024). Penerapan Model Pembelajaran Berbasis Masalah dengan Media Pembelajaran Magic Board untuk Meningkatkan Kemampuan Berpikir Kritis. *Jurnal Penelitian Tindakan Kelas*, *1*(3), 152–155.https://doi.org/10.61650/jptk.v1i3. 367

Nisaa, R., Yuniawatika, Y.,& Surayanah, S. (2024). Analisis Kebutuhan Bahan Ajar Matematika Materi Bangun Datar Kelas III Sekolah Dasar. *JIPM (Jurnal Ilmiah Pendidikan Matematika)*, *12*(2), 246. https://doi.org/10.25273/jipm.v12i 2.18184

Ratinho, E., & Martins, C. (2023). The role of gamified learning strategies in student's motivation in high school and higher education: A systematic review. *Heliyon*, *9*(8). https://doi.org/10.1016/j.heliyon.2 023.e19033

Sahid, N. W., Prihaswati, M., & Mawarsari, V. D. (2024). Persepsi Siswa dan Guru SMP Terhadap Pengunaan Media Pembelajaran Matematika Berbasis Teknologi. *AKSIOMA: Jurnal Matematika Dan Pendidikan Matematika*, *15*(1), 125–138.

Simamora, M., & Winardi, Y. (2024). Pengembangan Media Pembelajaran Smart Tv Dalam Pembelajaran Matematika Di Sekolah Menengah Pertama Bekasi [Development of Smart Tv Learning Media in Mathematics Education At a Junior High School in Bekasi]. *JOHME: Journal of Holistic Mathematics Education*, *8*(1),75.https://doi.org/10.19166/johme.v 8i1.8228

Suseno, P. U., Ismail, Y., & Ismail, S. (2020). Pengembangan Media Pembelajaran Matematika Video Interaktif berbasis Multimedia. *Jambura Journal of Mathematics Education*, *1*(2), 59–74. https://doi.org/10.34312/jmathed u.v1i2.7272

Tabuk, S., & Banjar, K. (2023). *3 1,2,3*. *2*(1), 349–365. Winarni, D. S., Naimah, J., & Widiyawati, Y. (2020). Pengembangan Game Edukasi Science Adventure Untuk Meningkatkan Keterampilan pemecahan Masalah Siswa. *Jurnal Pendidikan Sains Indonesia*, *7*(2), 91–100. https://doi.org/10.24815/jpsi.v7i2. 14462