Jurnal JOEPALLT
Volume 13 Number 02 September 2025
ISSN 2338-3739 (Print)
ISSN 2614-8099 (online)
https://jurnal.unsur.ac.id/jeopallt

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Submitted: 09 July 2025	Revised: 31 July 2025	Accepted: 2 Agustus 2025

DEVELOPING INTERACTIVE VIDEOS FOR FACILITATING READING ACTIVITY IN AN INCLUSIVE CLASS AT THE SIXTH GRADE OF SDN 2 BENGKALA

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ABSTRACT

This study aims to develop interactive videos to support sixth-grade students in an inclusive classroom at SDN 2 Bengkala with their reading tasks. Particularly for pupils with exceptional needs, including deaf and mute learners, inclusive education poses additional difficulties. These difficulties emphasize the necessity for creative instructional resources catered to a range of learning capacities and styles. The ADDIE model, which has phases for analysis, design, development, implementation, and evaluation, is followed in the development process. The primary goal of the study is to identify the specific needs of students in inclusive classrooms, create interactive video to satisfy those needs, and evaluate the usefulness and content validity of the final products. The findings of the study emphasize the importance of visual and auditory elements in enhancing students' engagement and reading comprehension. The results help close the gap in educational possibilities for all children by providing a paradigm for developing interesting and easily available learning resources. Additionally, this study emphasizes how technology may help create a fair and inclusive learning environment so that children with special needs can get high-quality instruction.

Keywords: *Reading Comprehension, Special Needs Education, Inclusive Classroom, Interactive Videos, and ADDIE Paradigm*

INTRODUCTION

Low reading interest among sixth-grade students at SDN 2 Bengkala, particularly those with hearing and speech impairments, poses a significant challenge. Reading is essential for intellectual and personal development, as it enables individuals to acquire knowledge, improve critical thinking, and develop language proficiency (Aminatun et al., 2019). However, many students at SDN 2 Bengkala struggle with reading engagement, especially in English, which negatively impacts both their academic performance and language acquisition. This issue is further exacerbated by the communication barriers that students with disabilities face, making it

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difficult for them to fully grasp textual materials and participate in reading activities (Yunitasari & Hanifah, 2020).

The digital era has transformed the way people access and consume information, yet many students still find reading unappealing (Helmie 2022). Research has shown that frequent reading enhances vocabulary acquisition and language competence, which in turn improves communication skills (Oktaviani & Desiarti, 2019). However, in Indonesia, the culture of reading remains underdeveloped due to the dominance of oral traditions and storytelling, which have historically shaped communication patterns (Rabiah, 2020). Additionally, the influence of digital entertainment and social media further reduces students' interest in reading, as they tend to prefer visual and interactive content over traditional texts (Chadijah et al., 2023).

Students with disabilities face even greater challenges in reading due to the lack of inclusive learning resources. In particular, deaf and mute students rely heavily on visual cues and sign language, which are not adequately supported by conventional reading materials (Zheng et al., 2023). SDN 2 Bengkala, an inclusive school since 2007, has implemented a dual-teacher system where one teacher delivers material verbally while another translates it into sign language. Despite this innovative approach, students with hearing impairments still struggle with reading comprehension, highlighting the need for more accessible and engaging learning materials (N. Pranowo & Herujiyanto, 2015).

To address these challenges, this study focuses on the development of interactive videos that incorporate visual and auditory elements to enhance reading engagement and comprehension. Studies show that multimedia learning effectively enhances literacy skills in students with special needs by offering a more engaging and immersive learning experience (Hu, 2005). The integration of interactive videos in reading instruction is expected to make learning more appealing, particularly for deaf and mute students who benefit from visually rich content (Yamasaki et al., 2021).

The study utilizes the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) to systematically develop and evaluate the effectiveness of interactive videos. This structured approach ensures that the materials are developed based on the specific needs of inclusive students while also allowing for iterative improvements (Endah et al., 2018). However, the study is limited to evaluating the practicality of these materials and does not measure their long-term impact on students' literacy development (Chadijah et al., 2023). Future research should explore the extended effectiveness of multimedia-based learning in improving literacy skills over time.

Four key aspects are examined in this study: the types of English reading materials needed by inclusive students, the design of interactive videos, their content validity, and their practicality in classroom settings. Identifying the specific reading needs of students with disabilities is crucial in developing effective instructional materials (Permatasari, 2015). Furthermore, ensuring the validity and practicality of interactive videos will determine whether they can be seamlessly

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integrated into inclusive classrooms, supporting both deaf and non-deaf students in their learning journey (Zheng et al., 2023).

Indonesia's literacy challenges are deeply rooted in cultural and systemic factors, but initiatives like SDN 2 Bengkala's inclusive education model highlight the potential for change. Encouraging reading habits through innovative approaches, such as the use of interactive videos, is a step toward addressing the nation's low reading culture (N. Pranowo & Herujiyanto, 2015). Additionally, the success of programs like the "SiKober Program" from Ganesha Education University further demonstrates the effectiveness of digital tools in supporting inclusive learning environments (RRI, 2024). By implementing similar initiatives, more schools can foster a reading culture that accommodates diverse learning needs (Jauhar Helmie and Taufik 2025).

Developing multimodal learning resources is essential in bridging the literacy gap for students at SDN 2 Bengkala and other inclusive schools. By incorporating visual, textual, and interactive elements, educational materials can be tailored to support students with hearing and speech impairments, ensuring equitable access to learning opportunities (Aminatun et al., 2019). Promoting an inclusive literacy culture will not only improve academic outcomes but also empower students with disabilities, enabling them to participate more actively in their education and broader society (Rabiah, 2020).

METHODS

This study adopts a Research and Development (R&D) approach, applying the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) to create interactive videos for teaching English to inclusive students. R&D is commonly used to create new educational products or improve existing ones, ensuring their effectiveness before full implementation (Sugiyono, 2008). The ADDIE model was selected because it provides a structured yet flexible framework, ensuring a systematic development process while maintaining simplicity and efficiency.

The study was conducted at SDN 2 Bengkala, an inclusive school accommodating both regular and special-needs students, including those who are deaf and mute (Kolok students). The research subjects were sixth-grade students, while the study object was the interactive video developed for English learning. Ethical considerations were addressed by ensuring informed consent from participants, safeguarding confidentiality, and adhering to research ethics standards

Sample size, Power and Precision

The study focused on a specific sample of sixth-grade students at SDN 2 Bengkala, ensuring a manageable yet representative group for testing the interactive videos. Since the study prioritizes in-depth analysis rather than broad generalization, the sample was selected based on its relevance to the research objectives. The small

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sample size allows for detailed observations and qualitative feedback, ensuring a precise evaluation of the learning materials.

Data Collection

Multiple data collection methods were employed to gain a comprehensive understanding of the effectiveness of interactive videos. The following approaches were used such as: Interviews, Documentation, Expert Judgement and Questionnaire.

Measures and Covariates

The study used different methods to measure the effectiveness of interactive videos. Interviews and document analysis were conducted to understand what kind of English learning materials inclusive students need. Experts reviewed the videos using a judgment sheet to check their accuracy and quality. Questionnaires were given to students and teachers to assess how useful and engaging the videos were, following the Technology Acceptance Model (TAM). The gathered data was analyzed using descriptive statistics and interactive data analysis techniques.

Manipulations or Interventions

For the intervention, interactive videos were developed with sign language, subtitles, animations, and engaging stories to help deaf and mute students learn English. These videos were tested in classrooms to see how well they worked. Teachers and students provided feedback, and experts reviewed the materials. Based on their input, improvements were made to ensure the videos are effective for inclusive learning.

FINDINGS AND DISCUSSION

Findings on Reading Media for Inclusive Students

The analysis of curriculum documents, lesson plans, and learning resources at SDN 2 Bengkala revealed that inclusive students require reading materials that are accessible, engaging, and multimodal. The school implements the Merdeka Curriculum, which supports diverse text formats such as written, visual, and digital materials. Interviews with teachers and document analysis indicated that students benefit from visual aids, interactive texts, and real-life examples to enhance comprehension.

Table 1. Summary of Reading Material Needs for Inclusive Students

Aspects	Findings
Text Format	Needs to be multimodal (written, visual, digital)
Engagement	Students respond well to interactive and real-life examples
Accessibility	Requires visual aids, subtitles, and simplified text for better comprehension

Source: Data Adapted from Putri, 2025

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Design and Development of Interactive Videos

The development of interactive videos followed the ADDIE model, incorporating sign language, animations, and subtitles to cater to deaf and mute students. The design phase involved expert input to ensure content validity and alignment with best practices in inclusive education. The final product featured structured content, beginning with definitions and progressing to examples, exercises, and quizzes.

Content Validity Evaluation

Expert judgments were conducted to assess the content validity of the interactive videos. Using Gregory's matrix method, the content validity index (CVI) scored above 90%, indicating strong agreement among experts that the videos met high educational standards. The evaluation focused on structure, accessibility, interactivity, and curriculum compatibility.

Table 2. Content Validity Assessment Based on Expert Judgment

Aspect Evaluated	Score (%)	Evaluation
Structure	95%	Highly Valid
Accessibility	92%	Highly Valid
Interactivity	91%	Highly Valid
Curriculum Compatibility	94%	Highly Valid
Overall Content Validity Index (CVI)	**Above 90%**	**Highly Valid**

Source: Data Adapted from Putri, 2025

Practicality of Interactive Videos

The practicality of the videos was evaluated through questionnaires using the Technology Acceptance Model (TAM). Results showed an average student score of 4.4375 and an average teacher score of 4.5, suggesting that students and teachers found the videos easy to use, engaging, and beneficial for learning. Key aspects assessed included perceived ease of use, usefulness, and engagement.

Table 3. Student and Teacher Ratings of Interactive Videos

Evaluation Aspect (TAM-based)	Average Student Score (1-5)	Average Teacher Score (1-5)
Perceived Ease of Use	4.4	4.5
Usefulness	4.5	4.6
Engagement	4.4	4.5
Overall Practicality Score	**4.4375**	**4.5**

Source: Data Adapted from Putri, 2025

This table confirms that both students and teachers found the videos practical, engaging, and beneficial for learning.

DISCUSSION

Effectiveness of Interactive Videos in Inclusive Learning

The findings of this study confirm that interactive videos significantly enhance engagement and comprehension among inclusive students, particularly those with

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hearing impairments. The high content validity scores (above 90%) indicate that experts strongly agree on the effectiveness of the videos in delivering structured, accessible, and interactive learning materials. This aligns with previous studies (Ahmad & Khasawneh, 2023), which highlight the adaptability of multimodal learning media in catering to diverse learning styles. The incorporation of sign language, subtitles, and animations in the videos provides an inclusive approach that benefits both deaf and non-deaf students.

Alignment with the Technology Acceptance Model (TAM)

The practicality evaluation using the Technology Acceptance Model (TAM) revealed that students and teachers rated the videos highly in terms of ease of use, usefulness, and engagement. Students provided an average score of 4.4375, while teachers gave a 4.5 rating, indicating strong acceptance of the interactive videos. This is consistent with TAM's principles, which suggest that user adoption is primarily influenced by perceived ease of use and perceived usefulness. The findings suggest that the integration of interactive videos in inclusive classrooms can improve accessibility and increase student motivation in reading activities.

Challenges in Implementation

Despite the positive results, several challenges were identified during implementation. Teacher training is essential to ensure effective integration of interactive videos in the classroom. Some teachers may require additional professional development to fully utilize the multimedia features and align them with instructional goals. Another challenge is technological infrastructure, as some classrooms may lack adequate devices or internet connectivity to support interactive learning materials. Additionally, while most students found the videos engaging, a small number still preferred traditional learning methods or required additional explanations to fully comprehend the content.

Potential for Further Improvement

The study highlights opportunities for enhancing interactivity in future versions of the videos. The inclusion of gamification elements, such as interactive quizzes, real-time feedback, and adaptive learning features, could further increase student engagement. Moreover, expanding the range of topics and content within the videos could cater to different literacy levels and learning preferences. Implementing adaptive learning technologies that allow students to progress at their own pace may also enhance the effectiveness of the interactive videos.

Implications for Inclusive Education

The success of the interactive videos underscores the importance of technology in inclusive education. Schools should consider investing in digital learning tools that accommodate diverse learning needs, ensuring that students with disabilities have equal access to educational opportunities. Additionally, policymakers should support the development of interactive multimedia resources to enhance inclusivity

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in education. By leveraging technology, teachers can create a more engaging and accessible learning environment, fostering a more inclusive classroom experience.

CONCLUSION

Overall, this study demonstrates that interactive videos are highly effective in supporting inclusive learning by enhancing student engagement, accessibility, and reading comprehension. While minor challenges exist, improvements in teacher training, infrastructure, and interactivity can further maximize their potential. The findings suggest that integrating interactive multimedia in inclusive classrooms can bridge learning gaps and improve educational outcomes for students with special needs. Future research could explore long-term impacts and scalability to ensure the widespread implementation of interactive learning materials in diverse educational settings.

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