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### **Audiovisual-Based Education to Enhance Digital Health Literacy and Dental Health Behaviors at SDN 1 Sumberejo**

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#### **ABSTRACT**

Low digital health literacy among elementary school students in rural areas remains a significant barrier to independent dental and oral health maintenance. This issue was identified at SDN 1 Sumberejo, Kendal, where students had not utilized digital technology for health information and possessed minimal dental health knowledge. This community service program aimed to empower students by enhancing their digital health literacy and improving dental health behaviors through an audiovisual-based educational approach. The intervention was conducted on August 12, 2025, involving 20 students, with implementation stages including: problem identification through surveys, interactive education using creative videos, demonstrations of proper tooth-brushing techniques, and direct guidance in accessing digital health applications. The results showed a positive transformation, with all students now capable of independently operating health information applications. The final evaluation recorded a significant increase in understanding, with all participants (100%) achieving the established competency standards (scores above 75%). This activity successfully built new awareness and provided practical skills for students to leverage technology for maintaining dental and oral health, thereby fostering sustainable healthy lifestyles within the school environment.



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### **INTRODUCTION**

Current developments in information technology require students to possess digital skills to support creativity and daily life (Haya et al., 2023). However, the reality in Indonesia shows low digital literacy, characterized by the spread of hoaxes and invalid health information. This condition poses a significant risk to elementary school-aged children, who are now highly familiar with digital devices but remain vulnerable to misinformation. In fact, digital literacy encompasses ethical and reflective practices crucial for preparing the "Golden Generation 2045" (Setiani & Barokah, 2021). Through

proper early health literacy, children are expected to adopt healthy behaviors through correct learning processes (Yuliansari et al., 2023).

Gaps in access to digital information remain a major issue, particularly for rural communities (Hutahaean et al., 2023). This is evident in Sumberejo Village, Kaliwungu District, Kendal Regency. As the area with the second-highest elementary school-age population in Kendal (Statistics Indonesia of Kendal Regency, 2019), Sumberejo faces serious dental health challenges. Data indicates that dental and oral health problems among children in Indonesia reach 93% (Nurwati, 2023), with Central Java having the highest proportion of dental issues in the 5–9 age group (Ministry of Health, 2018). In Kendal Regency itself, School Dental Health Efforts (UKGS) have not yet reached all students optimally (Kendal District Health Office, 2018).

The situational analysis at SDN 1 Sumberejo Village revealed a combination of problems: high dental health risks, low health literacy, and limited utilization of technology for education. Although students have internet access, its use for seeking valid dental health information remains minimal. Furthermore, oral hygiene habits are not yet optimal due to a lack of engaging education (Silfia et al., 2019). Prior to the intervention, students were unfamiliar with specific digital platforms that could support independent dental care.

To address these issues, educational media capable of increasing students' attention is required (Oulya et al., 2023). Audiovisual media or videos were selected as the primary instrument because they are considered effective in improving knowledge and attitudes by activating multiple senses (Renaningtyas et al., 2025). Empirical evidence shows that animated videos can increase children's dental health understanding by up to 94.7% (Sari et al., 2025) and significantly transform oral hygiene behaviors (Jannah et al., 2025).

Based on this urgency, this community service activity was designed as a practical solution to enhance the digital health literacy of students at SDN 1 Sumberejo Village. Through interactive counseling, mentoring in the use of health applications, and the development of audiovisual content, this program aims to empower students to become proficient in accessing valid health information. In addition to increasing students' knowledge, this activity also involves teachers and village authorities as strategic partners to ensure the sustainability of education and the monitoring of dental health within the school environment.

## METHODS

### 1. Activity Type and Target Participants

This activity is a community service program focusing on education, mentoring, and empowering elementary school students. The target participants were 20 students at SDN 1 Sumberejo Village, Kaliwungu District, Kendal Regency. The location was selected based on a situational analysis indicating a high need for digital health literacy in the area.

### 2. Time and Location

The activity was conducted on August 12, 2025, at the school premises of SDN 1 Sumberejo Village, Kendal.

### 3. Implementation Stages

The implementation of this community service program was divided into three main stages:

#### a. Preparation Stage:

- 1) Coordinating with school authorities and village officials regarding the schedule and necessary permits.

- 2) Identifying the students' initial knowledge levels and the accessibility of digital technology within the school environment.
  - 3) Developing educational media, including creative animated videos and introductory modules for digital health applications suitable for elementary school-aged children.
- b. Implementation Stage (Intervention):
- 1) Interactive Counseling: Delivering material on the importance of maintaining dental and oral health through two-way dialogue sessions.
  - 2) Audiovisual Education: Presenting educational videos to capture students' attention and simplify the understanding of complex health instructions.
  - 3) Practical Demonstration: Providing hands-on training on proper tooth-brushing techniques directly in the field.
  - 4) Digital Mentoring: Introducing and guiding students in accessing digital health applications or platforms to seek valid health information.
- c. Evaluation Stage:
- 1) Knowledge Evaluation: Comparing understanding levels before (pre-test) and after (post-test) the intervention to assess the effectiveness of the audiovisual media used.
  - 2) Behavioral Observation: Observing changes in students' enthusiasm and technical skills in operating digital devices for health purposes during the activity.

#### 4. Media and Educational Methods

The primary instruments used were audiovisual media (videos) and digital devices (smartphones/tablets). The applied methods emphasized "learning by doing" and "active learning" approaches, where students were not only passive recipients of information but were actively involved in digital simulations and practical exercises.

## RESULTS AND DISCUSSION

The community service activity, conducted on August 12, 2025, at SDN 1 Sumberejo Village, was met with high enthusiasm from the 20 participating students. Unlike conventional counseling, the use of audiovisual media and digital devices created a vibrant and participatory learning atmosphere. Students were not merely passive listeners; they were actively engaged in two-way dialogues during the educational video sessions on dental health.

Evaluation data revealed a tangible transformation in knowledge. Prior to the activity, 100% of the students admitted they had never been introduced to or utilized digital health applications for dental care. However, after the direct mentoring session, students were able to demonstrate how to independently access valid health information platforms. This progress is reflected in the evaluation results, where all participants exceeded the established competency standards (scores above 75%). This significant increase in student knowledge proves that a structured educational approach, as confirmed by [Manggasa et al \(2025\)](#), is highly effective in transforming basic knowledge and skills among children. At SDN 1 Sumberejo, this effectiveness was evident as students, who were initially unfamiliar with the technology, became proficient in operating it following the systematic guidance provided. Effective health communication serves as a vital instrument in this process, empowering individuals to

access and comprehend information to make informed decisions, which is essential for translating health knowledge into sustainable well-being (Caeiros et al., 2024).



Figure 1. Student Interaction during the Digital Education Session

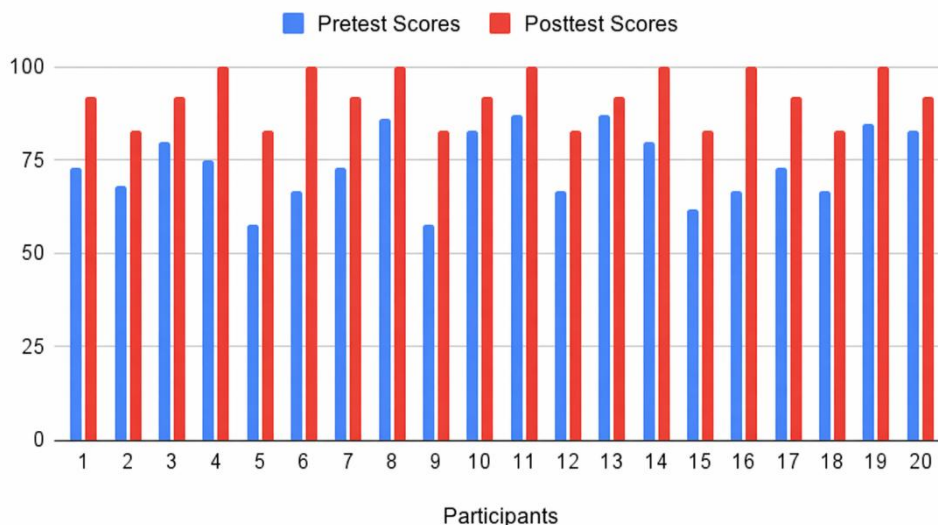


Figure 2. Graph of Student Competency Achievement Improvement

During the implementation, the team encountered several practical challenges. One major issue was the variation in students' digital proficiency. Some students in this rural area were initially hesitant to try the health applications due to a fear of making technical errors. The team addressed this through peer mentoring and personalized guidance, which proved effective in boosting their confidence. The assisting teachers also played a crucial role in bridging technical instructions into language that was more easily understood by elementary school students.

The occasionally unstable internet connection in the rural location also posed a challenge. However, the use of pre-prepared offline audiovisual content ensured that the activity proceeded smoothly without significant technical disruptions. This

experience demonstrates that preparing adaptive content is vital for community service activities in areas with limited digital infrastructure.

The improvement in digital dental health literacy has long-term practical implications for the students of SDN 1 Sumberejo. Equipped with the skills to seek valid information, students now have the tools to verify health hoaxes prevalent on social media. The use of animated videos proved to be an effective "icebreaker," which, according to [Wijayanti \(2023\)](#), facilitates two-way communication and active participation. This aligns with the findings of [Sari et al. \(2025\)](#) and [Jannah et al. \(2025\)](#), which emphasize that interactive audiovisual media is highly effective in instilling healthy habits and shifting students' knowledge from the "poor" to "good" category.

Furthermore, the digital approach used in this program aligns with global trends in health behavior modification, such as utilizing short messages or digital platforms for plaque and caries control ([Marshman et al., 2021](#); [Ribeiro et al., 2022](#)). The success at SDN 1 Sumberejo proves that even in rural areas, structured digital interventions can provide a significant impact on children's early promotive and preventive dental health awareness.

## CONCLUSION AND RECOMMENDATIONS

The community service activity at SDN 1 Sumberejo Village successfully empowered students by enhancing their digital health literacy and improving their dental health knowledge. The intervention using audiovisual media proved to be an effective and engaging method for rural students to comprehend complex health instructions. The tangible outcome of this program is the transformation of students' capabilities; previously unfamiliar with digital health technology, they are now proficient in independently accessing valid health information platforms. This proves that systematic mentoring and the use of adaptive educational content can effectively trigger promotive and preventive dental health behavior changes in children from an early age.

To ensure the sustainability of the program's impact, it is recommended that the school integrate the educational video content and digital platform introductions into routine School Health Service (UKS) activities. Teachers are expected to serve as continuous facilitators in monitoring students' digital health information-seeking habits. Furthermore, village authorities and relevant stakeholders should provide support for more stable digital infrastructure within the school environment to minimize the information gap. Periodic follow-up monitoring is highly recommended to ensure that the newly acquired digital literacy skills are consistently practiced by students in their daily lives.

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