

Utilization of Digital Technology to Improve the Effectiveness of Indonesian Language Learning in Elementary Schools

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Abstract

The development of technology opens up great opportunities to improve the quality of learning in elementary schools, especially in learning Indonesian. This study uses a qualitative approach with a literature review method to examine the application of digital creativity in learning media. Various sources such as journals, articles, and research reports are analyzed to identify effective technologies to use, such as interactive videos, augmented reality (AR), virtual reality (VR), gamification, online learning communities, and artificial intelligence (AI)-based applications. These technologies are able to increase student motivation, engagement, and understanding interactively and personally. In conclusion, the use of digital technology in learning Indonesian in elementary schools can create a more interesting and effective learning atmosphere.

Keywords: Digital Creativity, Learning Media, Digital Technology, Elementary School



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Introduction

The rapid development of digital technology in the last two decades has brought significant changes in various aspects of life, including education. Schools, especially at the elementary level, are faced with the challenge of adapting to this digital era in order to create a learning process that is more effective, interesting, and relevant to the needs of the times. One of the subjects that is very important to master from an early age is Indonesian. Learning Indonesian in elementary schools includes the development of four main language skills, namely listening, speaking, reading, and writing. These four skills require a varied and contextual learning approach so that students not only understand language theory, but are also able to use it in everyday life.

Digital technology is present as a potential solution to answer the challenges of conventional learning which tends to be one-way and less interactive. By utilizing rich and interactive digital media, teachers can create a more enjoyable learning atmosphere, increase student participation, and help them understand the material in an easier and more enjoyable way. Therefore, the use of digital technology in learning Indonesian in Elementary Schools is not just an option, but has become a necessity in forming literate and technology-savvy students from an early age.

In the midst of the advancement of the digital era, the world of education is required to create a learning experience that is not only efficient but also able to attract students' interest. One approach that is increasingly being applied is the use of technology-based learning media. Digital innovation plays an important role in designing media that suits the character and needs of today's students, who tend to be more interested in interactive learning methods supported by technology. Although there

are still negative perceptions about the use of technology in education, this does not mean that the presence of textbooks should be eliminated. In fact, technology can be used as a supporting tool to strengthen student literacy through access to the internet and various learning sites, thereby broadening their horizons in the learning process (Khoirroni et al., 2023).

Innovation in education is a strategic step to create teaching methods, curriculum development, and learning management that can improve the quality, attractiveness, and effectiveness of the entire education system. Innovation can be interpreted as a new idea designed for individuals or groups to solve certain problems creatively, through the combination of various contexts that produce solutions that are not yet commonly known (Kristiawan et al., 2018). In the context of education, innovation involves efforts by educators to present new approaches and adjust the curriculum to be more responsive to the learning needs of students (Oktavianti et al., 2024).

This study focuses on the use of digital media as an innovative means of developing learning strategies that are more in line with the characteristics of today's digital generation. This study also aims to measure the effectiveness of this approach in supporting learning that is personal, collaborative, and oriented towards achieving learning outcomes. The novelty of this study lies in the analysis of the integration of cutting-edge technologies, such as artificial intelligence and augmented reality, to create a more interactive, immersive, and meaningful learning experience - dimensions that have rarely been the focus of previous research.

Based on the theoretical framework, the main focus of this study is how digital creativity can be utilized in the development of learning media that are not only effective but also interesting, and how this impacts on improving student learning outcomes. The use of creatively designed multimedia learning media is believed to be able to increase students' active participation in the learning process, thereby strengthening the absorption of information. By combining creative approaches and digital technology, learning media not only functions as a tool to deliver material, but also as a means of creating relevant, contextual learning experiences, and encouraging students to learn independently and sustainably.

Methods

This study applies a qualitative approach using a literature study method that focuses on the issue of digital creativity in the development of learning media. Literature studies are conducted by tracing and analyzing various relevant sources, including scientific journals, books, popular articles, research reports, and other documents that examine technological innovation in the context of education. Literature studies have an important role in developing scientific insights; not only providing empirical evidence that can influence educational policies and practices, but also encouraging the emergence of new ideas and research directions if carried out in depth and systematically (Snyder, 2019).

A well-structured literature review helps researchers identify under-explored research gaps, avoid repeating previous studies, and formulate sharper research questions and hypotheses. The data collection process begins with a literature search using keywords such as "digital creativity", "instructional Media", And "educational innovation". From the search results through Google Scholar, 22 articles were obtained that met the criteria. All data obtained were then analyzed systematically to identify current trends, findings, and implications in the application of digital technology to learning media.

The analysis was conducted to reveal important patterns related to the research objectives. The results of this method provide a solid theoretical basis for the integration of digital creativity in learning media, so that it can be used as a basis for developing learning innovations in the future.

Results and Discussions

1. Utilization of Technology and Learning Methods to Improve the Effectiveness of Indonesian Language Learning in Elementary School

In the era of digital transformation, technology has become an inseparable part of the world of education. The application of various learning technologies has been proven to increase motivation, engagement, and effectiveness of learning, including in the context of learning Indonesian at the elementary school level. Based on the literature study conducted, there are five main forms of technology that are relevant and have great potential to be integrated into learning Indonesian creatively and interactively, namely: interactive video, AR/VR, gamification, online learning forums, and artificial intelligence (AI)-based applications.

a. Interactive Video

Interactive video is one form of technology-based learning media that is very effective in integrating audio-visual elements with interactivity. Not only functioning as a means of delivering information, interactive video also allows students to actively participate in the learning process through click features, multiple choices, or certain commands in the video. According to Daryanto (2010), this media is able to present dynamic and varied content, which is very important in maintaining student attention.

In the context of learning Indonesian in elementary schools, interactive videos can be used to introduce and strengthen mastery of new vocabulary, reading comprehension, and listening and speaking exercises. For example, videos that show pictures of objects around the student's environment such as stationery, fruits, or animals, complete with pronunciation sounds and sentences for their use, can help students understand the meaning of words as well as their use in real contexts. The feature of clicking on an image to hear the word, or guessing the meaning of a word from the image that appears, increases student interaction and helps the understanding process run more effectively. This media is very suitable for elementary school-age children who naturally like visual displays and activities that involve direct response.

b. Augmented Reality (AR) dan Virtual Reality (VR)

AR and VR are cutting-edge technologies that have begun to be utilized in the world of education to create a more immersive, real, and enjoyable learning experience. Augmented Reality (AR) allows the integration of digital objects into the real world through devices such as mobile phones or tablets. Meanwhile, Virtual Reality (VR) creates an artificial world that can be fully explored by users as if they were in a real environment (Kiptiyah et al., 2023).

In Indonesian language learning, AR can be used to present literary materials such as folk tales or fairy tales by displaying 3D characters that come to life when students scan images in books or modules. For example, when students point the camera at the illustrations of the story "Malin Kundang" or "Legend of Lake Toba", the characters and scenes of the story will appear in three dimensions with supporting voice narration. This makes literary learning more lively, meaningful, and easy to understand, and strengthens students' emotional involvement in the stories they read.

Meanwhile, VR can be used to bring students "into" the world of a story or a particular environment being studied. For example, students can be invited to explore a traditional market or city park virtually, then asked to compose a descriptive paragraph based on the virtual experience. Learning experiences like this make Indonesian language learning not only focus on text, but also develop students' imagination and creativity.

c. Gamification

Gamification is a learning strategy that uses game elements such as points, levels, badges, and challenges into an educational context to increase student motivation and engagement (Mukarromah et al., 2021; Putra et al., 2024). This approach is very effective when applied to elementary school students because it suits their characteristics who like challenges, healthy competition, and fun activities.

In learning Indonesian, teachers can utilize applications such as Kahoot!, Quizizz, or Wordwall to present exercises on synonyms-antonyms, sentence structure, spelling, or reading comprehension. In

addition, games based on folklore or games that construct sentences from word fragments can also strengthen mastery of the material in a fun way. Gamification not only increases student enthusiasm, but also encourages them to repeat the material independently in order to get better grades, thus indirectly strengthening knowledge retention.

d. Online Learning Forums and Communities

Online learning has become part of modern educational life, especially since the COVID-19 pandemic. This learning model allows flexibility of time and place, and expands access to various learning resources (Jayul & Irwanto, 2020). Platforms such as Google Classroom, Edmodo, or Microsoft Teams provides facilities for uploading materials, assignments, quizzes, and discussion and collaboration features between students.

In Indonesian language learning, the use of online platforms can help teachers deliver materials in various forms, such as videos, short articles, practice questions, and collaborative projects. The discussion feature allows students to exchange ideas and learn to express opinions in writing, which can train writing and critical thinking skills. Through ongoing teacher training programs and technological infrastructure support, online learning can be used as a means to improve students' digital creativity and build independent and collaborative learning habits (Teguh Prasetyo et al., 2022).

e. Artificial Intelligence (AI) Based Applications

Artificial Intelligence (AI) is a technology that enables systems to perform tasks that require human intelligence, such as speech recognition, natural language processing, and decision-making (Hakeu et al., 2023; Maufidhoh & Maghfirah, 2023). In the context of education, AI is used to create adaptive learning systems that can adjust the material and pace of learning based on the needs of each student.

Examples of AI applications in Indonesian language learning in elementary schools include applications that provide voice-based reading exercises with direct feedback on pronunciation. AI can also be used to correct sentence structure, evaluate paragraph writing, or provide vocabulary recommendations according to context. In addition, AI-based educational games that present puzzles about standard words, spelling, or word meanings can also be used to enrich the learning experience. This technology greatly assists teachers in designing more personal, efficient, and effective learning.

Conclusion

The use of digital technology in education, especially in learning Indonesian in elementary schools, has opened up great opportunities to improve the quality, effectiveness, and attractiveness of the teaching and learning process. Various innovations such as interactive videos, Augmented Reality (AR), Virtual Reality (VR), gamification, online learning platforms, and artificial intelligence (AI)-based applications have proven to be able to enrich conventional learning methods by presenting a more immersive, personal, and enjoyable learning experience.

Each technology offers its own advantages: interactive video enhances visualization and student participation; AR/VR makes literary and folklore materials more vivid and understandable; gamification increases learning motivation through game elements; online forums expand the space for collaboration and communication between students and teachers; while AI-based applications enable adaptive learning according to individual needs.

By integrating technology appropriately, teachers can not only deliver Indonesian language materials in a more interesting way, but also help students build literacy competencies, critical thinking, collaboration, and digital skills that are highly relevant to the demands of the 21st century. However, the success of implementing technology in learning is highly dependent on teacher readiness, infrastructure availability, and support for training and educational policies that support it. Therefore, there needs to be collaboration between educators, schools, and policy makers to ensure that technology integration truly supports the continuous improvement of education quality.

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