

Analysis of Civic Education Learning Problems in Grade 4 at UPT Satuan Pendidikan SDN 1 Bendo

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Abstrak

Penelitian ini bertujuan untuk menganalisis implementasi teknologi digital oleh guru sekolah dasar sebagai agen transformasi dalam meningkatkan kualitas pembelajaran. Di tengah kemajuan teknologi yang pesat, guru dituntut tidak hanya berperan sebagai penyampai materi, tetapi juga sebagai penggerak perubahan, fasilitator dan inovator dalam proses pembelajaran berbasis teknologi serta dapat menciptakan lingkungan belajar yang dinamis dan relevan. Penelitian ini menggunakan metode kualitatif deskriptif dengan jenis studi literatur, teknik pengumpulan data pada penelitian ini dilakukan dengan menganalisis berupa jurnal, buku, dan artikel yang diterbitkan 10 tahun terakhir. Hasil analisis menunjukkan bahwa pemanfaatan teknologi digital oleh guru mampu meningkatkan efektifitas dan efisiensi proses pembelajaran, memperkuat keterlibatan siswa, serta mendorong pendekatan pembelajaran yang lebih inovatif dan kontekstual. Namun, tantangan masih ditemukan, seperti kurangnya pelatihan, keterbatasan sarana prasarana, dan rendahnya literasi digital di kalangan guru. Oleh karena itu, peran guru sebagai agen transformasi digital memerlukan dukungan berkelanjutan melalui pelatihan profesional, penyediaan infrastruktur teknologi, dan kebijakan pendidikan yang adaptif. Penelitian ini diharapkan dapat memberikan kontribusi dalam merancang strategi pengembangan keprofesionalan guru dan memperkuat integrasi teknologi di sekolah dasar.

Abstract

This study aims to analyze the implementation of digital technology by elementary school teachers as agent of transformation in improving the quality of learning. In the midst of rapid technological advances, teachers are required not only to act as millennial deliverers, but also as drivers of change, facilitators and innovators in the technology-based learning process and can create a dynamic and relevant learning environment. This research uses descriptive qualitative methods with the type of literature study, data collection techniques in this study are carried out by analyzing in the form of journals, books, and articles published in the last 10 years. The result of the analysis show that the utilization of digital technology by teacher can improve the effectiveness and efficiency of the learning process, strengthen student engagement, and encourage more innovative and contextual learning approaches. However, challenges are still found, such as lack of training, limited infrastructure, and low digital literacy among teachers. Therefore, teachers' role as agent of digital transformation requires continuous support through professional training, provision of technological infrastructure and adaptive education policies. This research is expected to contribute to designing teacher professional development strategies and strengthening technology integration in primary schools.

1. Introduction

The development of information and communication technology (ICT) has had a major impact on education, including at the elementary school level. The digital age demands a shift in learning approaches from conventional to more interactive, adaptive, and technology-integrated methods. Teachers, as the main actors in the learning process, are required to be able to adapt and take on the role of digital transformation agents. According to Munir (2017, p.22), the use of digital technology in learning is no longer just a supplement but has become an essential requirement for creating meaningful and contextual learning. Therefore, it is important to analyze how elementary school teachers implement digital technology to improve the quality of learning.

A review of the literature shows that the implementation of digital technology in elementary schools can improve the quality of teacher-student interaction, learning engagement, and learning outcomes. Technology enables the presentation of material in a visual and attractive manner, as well as providing space for students to learn independently and collaboratively. As explained by Sugiyono (2019, p.73), digital-based learning can facilitate students to learn according to their own styles and paces. However, on the other hand, there are challenges faced by teachers such as limited access, lack of training, and low digital literacy (Yulianti, 2020, p.114). Additionally, Wahyudin (2018, p.45) emphasizes the importance of teachers' active role in developing technology-based learning strategies that align with the characteristics of elementary school students.

This scientific work holds significance in contributing both conceptually and practically to

enhancing teachers' capacity in navigating the digital era. This research can serve as a reference for teachers, school principals, and policymakers in designing technology-based professional development programs. According to Mulyasa (2015, p. 40), the role of teachers as drivers of education is crucial in the process of learning innovation, and change will not be achieved if teachers are not empowered to their full potential. Therefore, the results of this study are expected to strengthen the literature on the role of teachers in digital transformation, particularly at the elementary education level.

The justification for publishing this article lies in the relevance of the issues discussed to the needs of educational development in Indonesia, which is currently moving towards school digitization. The government has encouraged digital transformation through various programs, but implementation has not been uniform in elementary schools. Therefore, scientific publications are needed to support a comprehensive understanding of the practices and obstacles faced by teachers in implementing digital technology. In line with Pranoto's (2021, p.58) opinion, the development of learning strategies integrated with technology must be based on accurate research results so that they are not only theoretical but can also be applied in practice.

Based on the above description, the hypothesis in this study is that the implementation of digital technology by elementary school teachers contributes positively to improving the quality of learning. The purpose of this study is to analyze how elementary school teachers implement digital technology in the learning process and to identify the challenges they face in carrying out their role as agents of digital transformation. In addition, this study also aims to formulate recommendations that can be used in the development of effective and sustainable digital education policies in elementary schools.

2. Method

This study uses a descriptive qualitative approach with a literature review (library research). The qualitative approach was chosen to gain an in-depth understanding of the role of teachers in implementing digital technology in elementary schools, as well as to analyze various relevant findings from scientific literature sources descriptively. Literature review as the primary method allows researchers to synthesize and analyze secondary data from scientific documents to identify patterns, concepts, and recurring findings in the context of teachers' roles as agents of digital transformation (Zed, 2004, p.3).

Data were collected from scientific documents in the form of accredited national and international journals, academic books, and popular scientific articles relevant to the research theme. The data inclusion criteria were: Sources published within the last 10 years (2015–2025), Focus on the implementation of digital technology by elementary school teachers, the role of teachers in learning transformation, and the challenges of digitalization in basic education, Available in full text and open access, or obtained through official scientific databases such as Google Scholar, ResearchGate, DOAJ, and Garuda. The search procedure was conducted using the keywords: “digital technology implementation,” “elementary school teachers,” “learning transformation,” and “teacher digital literacy.” The literature selection process was carried out in three stages: source identification, content relevance evaluation, and final selection based on alignment with the research focus.

Data analysis was conducted using content analysis techniques based on thematic analysis procedures. Researchers classified data according to main themes, such as: (1) forms of digital technology implementation by teachers, (2) obstacles and challenges of implementation, and (3) the impact of technology on the quality of learning. Furthermore, each theme was compared and critically interpreted to form a synthesis of findings. This analysis referred to the Miles and Huberman (2014, p.14) model, which includes the stages of data reduction, data presentation, and conclusion drawing.

To ensure the validity of the findings, source triangulation was conducted by comparing various types of documents (journals, books, and scientific articles). Additionally, credibility evaluations were conducted on each source based on publication quality, author affiliation, and content relevance. This procedure aims to ensure that only high-quality and relevant data are analyzed.

3. Results and Discussion

3.1. Results

The results of the literature review indicate that the implementation of digital technology by elementary school teachers has a significant impact on improving the quality of learning. Of the 20 sources reviewed (journals, books, and scientific articles between 2015 and 2025), most show that

teachers who make optimal use of digital technology tend to create a more active, interactive, and meaningful learning environment for students. This technology implementation takes various forms, such as the use of web-based interactive media, learning applications, the utilization of Learning Management Systems (LMS), and the integration of digital devices like laptops, tablets, and projectors into teaching activities.

The following is a Literature Synthesis table based on author, year, title/focus, main findings, and related themes to strengthen the clarity of the methodology and visual appeal of this study.

Table 1. Literature Synthesis: Implementation of Digital Technology by Elementary School Teachers

| No | Autors (Year) | Title/ Focus of Study | Main Findings | Main Theme |
|----|-------------------------|--|---|--|
| 1 | Fullan (2013) | <i>The New Meaning of Educational Change</i> | Teachers as key actors in technology based educational innovation | The role of teachers as agents of change |
| 2 | Munir (2017) | <i>Pembelajaran Digital</i> | Digital technology is an essential requirement for meaningful and contextual learning | The urgency of technology integration in education |
| 3 | Sugiyono (2019) | <i>Metode Penelitian Pendidikan</i> | Digital-based learning encourages independent and flexible learning styles | The concept of digital learning |
| 4 | Rohayani et al. (2015) | <i>Readiness Factors in Measuring E-Learning Readiness</i> | Teacher's digital competencies significantly influence their readiness to emplement learning technology | Teacher competencies and digital readiness |
| 5 | Rahayu & Suprpto (2021) | <i>Peran Teknologi Digital dalam Efektivitas Pembelajaran SD</i> | Technology increases student motivation and active participation | The positive impact of technology on learning |
| 6 | Wahyudin (2018) | <i>Profesionalisme Guru dalam Era Digital</i> | Teachers must actively develop technology-based strategies | Teacher professionalism and strategies |
| 7 | Mulyasa (2015) | <i>Menjadi Guru Profesional</i> | Change will not occur without optimal teacher empowerment | Teacher empowerment |
| 8 | Pranoto (2021) | <i>Inovasi Pembelajaran Berbasis Teknologi di SD</i> | Research-based digital learning strategies are needed | Technology-based learning strategies |
| 9 | Yulianti (2020) | <i>Literasi Digital Guru SD</i> | Low teacher digital literacy is a major challenge to technology implementation | Challenges of digital implementation |
| 10 | Yuliana (2020) | <i>Partisipasi Siswa dalam Pembelajaran Digital</i> | Digital learning encourages active participation in elementary school student | The impact of technology on students |
| 11 | Miles & Huberman (2014) | <i>Qualitative Data Analysis</i> | Explaining the thematic data analysis model through reduction, presentation, and conclusion drawing | Thematic data analysis |

3.2. Discussion

The main findings show that teachers do not only act as technology users but also as change agents who drive the transformation of teaching and learning methods in elementary schools. This aligns with Fullan's (2013, p. 43) statement that teachers are key actors in the success of technology-based educational innovation. As agents of digital transformation, teachers must possess digital pedagogical competencies, technological literacy, and the ability to adapt to rapid changes in the learning system.

Further discussion reveals that the success of digital technology implementation is significantly influenced by three main factors: (1) teacher competencies, (2) school infrastructure and policy support, and (3) willingness to change. Teachers who have undergone digital training or are familiar with technology demonstrate higher readiness to integrate technology into the learning process (Rohayani et al., 2015, p.87). Conversely, teachers who still face barriers in terms of digital skills or lack of school facility support tend to be slower in adopting this approach.

The results of this study are also consistent with previous research by Rahayu & Suprpto (2021, p.48), which emphasizes that the use of technology in elementary school learning increases student motivation and active participation. However, several studies also reveal challenges such as limited internet access in remote areas, lack of ongoing training for teachers, and resistance to changes in conventional learning methods. Therefore, although the research results affirm the importance of teachers' role as agents of digital transformation, the sustainability of this role requires systemic support from the government, school principals, and the education community (Sugiyono., 2018, p.27).

The implications of these results reinforce the importance of developing policies and continuous training programs for elementary school teachers, especially those focused on mastering digital technology in the context of learning. This study also opens up space for further research on the effectiveness of specific digital learning models most suitable for the characteristics of elementary school students, as well as technology-based teacher professional development models.

The scientific interpretation of these research findings indicates that teachers as agents of digital transformation play a central role in transforming learning practices through technology integration, as teachers are at the forefront of learning interactions and possess pedagogical authority to determine the methods and media used in the classroom. These results are consistent with Fullan's (2013, p. 43) findings, which emphasize that teachers are the driving force behind change in technology-based education, and are reinforced by Rohayani et al.'s (2015, p. 232) study, which states that teachers' digital competencies greatly influence the success of learning technology adoption. This research also aligns with the findings of Rahayu & Suprpto (2021, p.48), which show that technology-based learning increases student participation in elementary schools. However, unlike previous studies that only highlighted technical factors, this research emphasizes the importance of synergy between teacher readiness, institutional support, and educational policies. The implications of these findings underscore the need for systematic and sustainable strategies to enhance teachers' digital competencies.

The limitation of this study lies in the nature of the secondary data analyzed, which does not include direct observation or field data that could enrich the empirical context. Therefore, further research is recommended using mixed methods or field studies in elementary schools that have actively implemented technology to obtain a more comprehensive picture.

3.3. Conclusion

Based on the results of the literature analysis, it can be concluded that the implementation of digital technology by elementary school teachers plays a crucial role in driving educational transformation and improving the quality of learning. Teachers are not merely users of technology, but also agents of change who can create a more active, interactive, and relevant learning environment tailored to the needs of today's students. This study highlights the importance of teachers' digital competencies, infrastructure support, and conducive policies as key factors in the successful integration of technology into the teaching-learning process. Therefore, a systematic strategy is needed for the development of technology-based teacher professionalism, through continuous training and adequate institutional support. This study reinforces the hypothesis that the synergy between individual teachers' readiness and a supportive education system is the key to the success of digital transformation in elementary schools. As a recommendation, the government and education policymakers need to expand access to ICT training and ensure the equitable distribution of digital resources across various regions, so that digital education transformation is not merely a concept but can be realized comprehensively and sustainably.

Author Contributions

Fitri Hariani Harahap: Conceptualization, Data curation, Methodology, Investigation, Formal analysis, Visualization, Writing – original draft, Writing – review & editing, Supervision, Project administration.

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