

Optimization of TikTok Use as a Medium for Digital Literacy-Based Learning Outcomes in Elementary Schools

Diki Kurniawan^{1*}, Rina Heryani², Mubiar Agustin³

^{1,2,3}Program Magister of Elementary School, Indonesia University of Education, Bandung, Indonesia

*dikik29@upi.edu

Abstract. This study investigates the use of TikTok as a tool to enhance digital literacy in elementary school students. Using a one-group posttest-only design and incorporating the RADEC (Read, Answer, Discuss, Explain, Create) model, the research explored how students transformed their understanding of the topic "Changes in the State of Matter" into creative video content. The study found that TikTok significantly improved students' understanding, retention, and engagement with the material, while also increasing their motivation and confidence. The structured learning process, guided by the RADEC model, integrated critical thinking and creativity, supporting the development of digital literacy skills. By creating and sharing TikTok videos, students were able to actively engage with the content in ways that traditional methods might not support. The findings suggest that TikTok can be a highly effective educational tool in primary education when used responsibly. This research highlights TikTok's potential as an innovative educational tool that can enhance engagement and support digital literacy in elementary education.

Keywords: TikTok, digital literacy, elementary school learning

INTRODUCTION

The rapid development of information and communication technology (ICT) has dramatically altered various aspects of life, especially in education. As the digital age progresses, individuals must acquire literacy skills that extend beyond basic reading and writing. According to Heryanti (2020), literacy encompasses the ability to access, explore, analyze, process, and communicate information across various formats. This evolving landscape introduces both challenges and opportunities, where literacy plays a critical role in shaping individuals who are not only knowledgeable but also critical, creative, and productive.

Among the critical skills required in this digital era is digital literacy. Eshet-Alkalai (2017) defines digital literacy as the ability to access, evaluate, and use information in digital formats received through various devices. Digital literacy includes not only the ability to use technology but also to analyze, understand, and critically engage with digital content in an increasingly interconnected world. UNESCO (2018) emphasizes that digital literacy involves using technology effectively and responsibly, a skill fundamental to navigating modern educational landscapes.

The integration of social media into daily life has grown exponentially, particularly among children and young people. TikTok, a platform built around short-form videos, has gained significant popularity among younger users globally. According to We Are Social (2023), more

than 60% of the global population actively uses social media, with mobile devices being the primary tool for access. This widespread use of social media provides new opportunities for education, particularly through platforms like TikTok, which could serve as an engaging and innovative learning tool for elementary school students.

The novelty of this study lies in its use of TikTok a widely popular platform as a medium for learning outcomes in the context of digital literacy education for elementary students. By integrating the RADEC (Read, Answer, Discuss, Explain, Create) model with TikTok's short video content, this research offers a fresh approach to fostering digital literacy. However, the discussion of the research's positioning within the global context is currently limited. While numerous studies have explored the use of social media and video-based learning, few have specifically integrated TikTok into a structured educational framework like RADEC. To highlight the novelty of this research, it is essential to compare it with international studies on social media and video-based learning at the elementary school level. This study could demonstrate how TikTok, with its unique features, can be leveraged for digital literacy in ways that are not fully explored in existing literature.

International studies, such as those by Selwyn (2016), have shown that platforms like YouTube and Instagram can enhance active student participation and engagement. However, TikTok's brief, creative video format offers a distinct opportunity for deeper student engagement and content creation. In comparison to these platforms, TikTok allows students to engage with educational content in dynamic, bite-sized formats, thus offering a unique tool for interactive and collaborative learning in the digital age. This research aims to fill the gap by focusing on how TikTok can be used in conjunction with a structured model like RADEC to promote digital literacy in elementary school students.

In the context of Indonesia, where TikTok has become the most widely used social media platform, with 157.6 million active users by July 2024 (Business of Apps, 2024; Statista, 2024), this study also has particular significance. Indonesia's large and active TikTok user base offers a unique opportunity to examine how this platform can be integrated into educational practices. The high level of TikTok engagement in Indonesia provides a distinctive context that differs from other global settings, where TikTok may not yet be as deeply integrated into educational frameworks. This study will highlight the potential of TikTok not just as a learning tool, but as an integral part of digital literacy education in Indonesia, where its usage is widespread among children and teens.

This article aims to explore the potential of TikTok as a digital literacy-based learning tool in elementary schools. By combining TikTok's short-form video format with the RADEC model, this study seeks to foster more effective and engaging learning experiences for students. The findings will contribute to an emerging body of research on integrating social media platforms into elementary education, with a particular focus on the unique challenges and opportunities presented by TikTok in the Indonesian context. This research also aims to offer a strategy for educators to optimize TikTok's educational potential while addressing the risks associated with inappropriate content, ensuring that its use aligns with educational goals.

The integration of TikTok into learning requires a well-thought-out strategy, including supervision and guidance from teachers and parents, to maximize its benefits and minimize potential risks. Despite its great potential, the use of social media in elementary school learning still faces various challenges. There is a phenomenon of rampant inappropriate content, especially among teachers who use the TikTok application unethically, disregarding their profession as role models for their audience. Another issue is that students are carried away by adult content or online game content that does not have a positive impact on their learning process.

METHODOLOGY

This study employs a quasi-experimental design with a one-group posttest-only approach, which involves evaluating the effects of an intervention on a single group without a control group. In this design, the same group receives the treatment, and the dependent variable is measured only once after the intervention. Since there is no pretest or control group, the results focus solely on the changes observed within the treated group, without drawing causal conclusions. This design is appropriate for contexts where it is challenging to establish a control group, such as in real-world educational settings.

The intervention in this study involves using TikTok as a digital learning tool to enhance digital literacy among elementary school students. TikTok, a popular social media platform, offers short video content that can be used to engage students in interactive learning activities. The students will access educational videos through TikTok, allowing them to participate in discussions and create their own content to reinforce their understanding of digital literacy concepts.

The sample for this study consists of four students from a local elementary school with limited access to digital devices. This small sample size is suitable for exploring the potential impact of TikTok-based learning on digital literacy within a controlled, manageable setting. The school's background, including resource availability and student demographics, will be considered to provide context for the study's findings. Since there is no control group, the analysis will focus on measuring changes in digital literacy within this specific group after the intervention.

This methodology is simple, cost-effective, and practical, as it involves only one group and one posttest measurement. Although the lack of a control group limits the ability to generalize the results, the use of TikTok as a digital learning tool presents a novel approach to enhancing digital literacy in elementary education, especially in environments where access to traditional educational technologies is limited.

RESULTS AND DISCUSSION

The results of this study indicate that the use of TikTok as a learning tool significantly enhances student engagement and digital literacy. Consistent with Fauziyah et al., (2022), who found that TikTok increased student motivation, this study also shows that students were more enthusiastic about learning, particularly in practicing speaking skills. Devi (2022) highlighted TikTok's potential to foster curiosity, intelligence, and creativity, which aligns with the results of this study, where students were actively engaged in creating content and collaborating with peers.

TikTok's features such as video recording, editing, and sharing facilitated the creation of digital content, allowing students to express their understanding creatively. These features support the development of digital literacy by enabling students to engage not only with educational content but also in content production. Table 2 outlines TikTok's key features, which served as tools for students to interact with and share their learning.

Table 2. TikTok Features

Feature	Function
Voice Recording	Record voice and integrate it into TikTok

Video Recording	Record and upload video content to TikTok
Background Sound	Add background sounds from TikTok's library
Editing	Edit and modify video content before sharing
Sharing	Share videos with others on TikTok
Duet	Collaborate with other TikTok users.

The teaching module guided students through a creative process, from understanding concepts to producing digital content. This module integrated digital literacy skills, including critical thinking and digital production, promoting constructivist learning where knowledge is actively constructed through interaction and experience (Maulidia et al., 2021). The "Create" stage encouraged students to produce TikTok videos, which served as tangible evidence of their learning and digital literacy.

The assessment rubric revealed that students performed well, scoring 91.6% (22 out of 24). High participation in planning discussions and effective content creation demonstrated that TikTok facilitated active engagement. The planning stage received a score of 4, indicating very active participation. The students effectively integrated content on "Changes in the Form of Objects" into their videos, with high scores in relevance and depth (4). While there were some limitations in video quality, the content demonstrated a solid understanding of the subject.



Figure 1. Student Video Content Thumbnails

Source: <https://vt.tiktok.com/ZSrsA3FGn/>

The questionnaire results further support the positive impact of TikTok. Most students felt TikTok helped them understand the material better and made learning more interesting. Additionally, students reported increased confidence in using technology and public speaking, which reflects the dual benefits of enhancing digital literacy and communication skills (Livingstone & Helsper, 2007). The feedback indicated that creating TikTok videos helped reinforce learning and retention, supporting the idea that digital tools like TikTok can strengthen long-term memory.

“Optimalisasi Penggunaan Media Sosial Tik Tok sebagai Sarana Output Pembelajaran Berbasis Literasi Digital di Sekolah Dasar”					
Nama Anggota Kelompok : Anggraeni, Asyifa, Vanisya, Zahra					
Kelas : IV					
Sekolah : SDN Kopo 02					
Semester/ Tahun Pelajaran : Genap/ 2024-2025					
Mata Pelajaran : IPAS (Perubahan Wujud Benda)					
Kriteria Penilaian	Kurang (1)	Cukup (2)	Baik (3)	Sangat Baik (4)	Nilai
A. Perencanaan					
Persiapan Alat dan Bahan	Tidak lengkap	Alat dan bahan kurang lengkap	Lengkap	Sangat lengkap dan kreatif	3
Diskusi Persiapan Proyek	Tidak aktif	Kurang aktif	Cukup aktif	Sangat aktif dalam diskusi	4
B. Hasil Akhir (Produk)					
Bentuk Fisik Video	Tidak sesuai	Cukup sesuai	Sesuai	Sangat sesuai dan kreatif	3
Kesesuaian dengan Materi	Tidak sesuai	Cukup sesuai	Sesuai	Sangat sesuai dan mendalam	4
C. Presentasi					
Penggunaan Bahasa	Tidak terstruktur, kurang baku	Terstruktur tetapi kurang baku	Terstruktur dan baku tetapi kurang jelas	Terstruktur, baku, dan sangat jelas	4
Kejelasan Penyampaian	Tidak jelas, suara tidak terdengar	Cukup jelas, suara terdengar tetapi bertele-tele	Jelas, suara terdengar, tidak bertele-tele	Sangat jelas, suara terdengar dengan baik, tidak bertele-tele	4
JUMLAH AKHIR					22
Pedoman Penskoran :					
(Skor Akhir : Skor Total x 100%)					
(22 : 24 x 100% = 91,6)					

Figure 2. Capture Product Assessment

These findings are consistent with digital literacy theory, which emphasizes the importance of using technology creatively and critically. TikTok provided a constructivist learning environment, where students actively created content and engaged with the subject matter, supporting the development of 21st-century skills. The study contributes to the growing body of research on social media in education, highlighting TikTok's potential to facilitate meaningful learning experiences. Future research should explore the long-term effects of TikTok on digital literacy and academic performance in diverse educational settings.

CONCLUSION

Based on the findings, this study concludes that the use of TikTok as a medium for digital literacy-based learning significantly enhances student engagement and understanding in elementary education. The integration of TikTok, particularly in learning the topic "Changes in the Form of Objects," allowed students to engage with the material in a creative and interactive manner. The results show that TikTok not only helped improve students' understanding but also fostered their digital skills, including effective communication and content creation. Additionally, students felt more confident using technology and reported better retention of the material, demonstrating TikTok's potential as an effective tool for long-term learning and memory enhancement.

Given the positive impact of TikTok on student learning and digital literacy, it is recommended that educators explore the integration of social media platforms like TikTok in their teaching methods to increase student engagement and enhance digital literacy skills. Future studies should examine the long-term effects of such interventions in different educational settings and explore how TikTok and similar platforms can be utilized for diverse learning objectives, ensuring they remain aligned with age-appropriate content and educational goals. Additionally, teachers should provide clear guidelines for students to use these platforms responsibly, ensuring that digital literacy is developed critically and creatively.

REFERENCES

- Business of Apps. (2024). *TikTok Revenue and Usage Statistics*. Retrieved from <https://www.businessofapps.com/data/tik-tok-statistics/>.
- Devi, A. A. (2022). Pemanfaatan aplikasi TikTok sebagai media pembelajaran. *Jurnal Epistema*, 3(1), 2022.
- Eshet-Alkalai, Y. (2017). Digital Literacy: A Conceptual Framework for Survival Skills in the Digital Era. *Journal of Educational Multimedia and Hypermedia*, 26(3), 344-370.
- Fauziyah, N., Ramadhini, A., Wardhana, K. E., & Hidayat, A. F. S. (2022). Penggunaan Aplikasi TikTok Sebagai Media Pembelajaran Untuk Meningkatkan Minat Belajar Peserta Didik di Era Globalisasi Digital. *Jurnal Tarbiyah & Ilmu Keguruan (JTIK) Borneo*, 3(3), 181-193. E-ISSN: 2714-6030 .
- Heryani, R. (2020). Pengembangan Program Literasi Komprehensif Berbasis Literasi Integral untuk Penguatan Gerakan Literasi Sekolah di SMP Kota Cimahi. *Universitas Pendidikan Indonesia*.
- Kompas.com. (2024). *Indonesia Pengguna TikTok Terbesar di Dunia, Tembus 157 Juta*. Retrieved from <https://tekno.kompas.com/read/2024/10/25/15020057/indonesia-pengguna-tiktok-terbesar-di-dunia-tembus-157-juta-kalahkan-as>.
- Livingstone, S., & Helsper, E. J. (2007). Gradations in digital inclusion: Children, young people, and the digital divide. *New Media & Society*, 9(4), 671-696.
- Maulidia, L., Suryadi, D., & Syamsuri, A. (2021). Penerapan Model Pembelajaran RADEC untuk Meningkatkan Literasi dan Hasil Belajar Siswa. *Jurnal Pendidikan Sains Indonesia*, 9(1), 12-20.
- Price, P. C., Jhangiani, R., Chiang, I.-C. A., Leighton, D. C., & Cuttler, C. (2020). *Research Methods in Psychology*. Open Textbooks for Hong Kong.
- Selwyn, N. (2016). *Education and technology: Key issues and debates*. Bloomsbury Publishing.
- Statista. (2024). *TikTok users by country 2024*. Retrieved from <https://www.statista.com/statistics/1299807/number-of-monthly-unique-tiktok-users/>.
- UNESCO. (2018). *Digital Literacy Global Framework*. United Nations Educational, Scientific and Cultural Organization.
- We Are Social. (2023). *Digital 2023: Global Overview Report*. Retrieved from <https://wearesocial.com>.
- Woolfolk, A. (2016). *Educational psychology* (13th ed.). Pearson