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# The Relationship Between Tiktok Media Usage and Digital Literacy with Students' Participation in Learning at SMKN 2 Karanganyar

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**ABSTRACT**

This study aimed to: (1) determine the relationship between TikTok usage and students' participation in learning, (2) determine the relationship between digital literacy and students' participation in learning, and (3) examine the simultaneous relationship between TikTok usage and digital literacy with students' participation in learning at SMKN 2 Karanganyar. This research was motivated by the low level of student participation in classroom learning and the high intensity of TikTok usage among students, which potentially influences their learning engagement. The study employed a quantitative approach with an ex post facto correlational design. The population consisted of 432 tenth-grade students of SMKN 2 Karanganyar, with 191 students selected as the sample using cluster sampling techniques. Data were collected through questionnaires and documentation. The research instruments included questionnaires on TikTok usage, digital literacy, and student participation in learning based on the theories of participatory culture, UNESCO Digital Literacy Global Framework, and student engagement. Data analysis used multiple linear regression to examine partial and simultaneous relationships among variables. The results showed that: (1) there was a positive and significant relationship between TikTok usage and students' participation in learning, (2) there was a positive and significant relationship between digital literacy and students' participation in learning, and (3) there was a positive and significant simultaneous relationship between TikTok usage and digital literacy with students' participation in learning. The findings indicate that educationally oriented TikTok usage supported by adequate digital literacy skills can enhance students' behavioral, emotional, and cognitive engagement in the learning process. Therefore, schools and teachers are encouraged to utilize social media more pedagogically and strengthen students' digital literacy to support optimal learning participation.

**Keywords:** *digital learning media, digital literacy, TikTok, , student participation, student engagement,*



## INTRODUCTION

The development of 21st-century education requires students to possess critical thinking, creativity, communication, and collaboration skills in order to adapt to rapid technological and social changes. In this context, the role of teachers has shifted from merely delivering information to facilitating active and student-centered learning experiences. Therefore, learning participation becomes an essential aspect in achieving meaningful learning outcomes, particularly in vocational education, where students are expected to develop both technical competencies and soft skills through active engagement in learning activities.

Student participation in learning is closely related to the concept of student engagement, which includes behavioral, emotional, and cognitive involvement during the learning process. Active participation enables students to interact, collaborate, ask questions, and engage deeply with learning materials. However, preliminary observations conducted during teaching practice at SMKN 2 Karanganyar indicated that student participation in classroom learning was still relatively low. Many students tended to be passive during discussions, showed limited initiative in asking questions, and often lost focus during instructional activities. This condition potentially hinders the development of vocational competencies that require active and contextual learning experiences.

At the same time, today's students grow up within a digital environment where social media platforms have become part of their daily lives. One of the most popular platforms among adolescents is TikTok, which provides short-form video content that is visual, interactive, and easily accessible. Indonesia itself has become one of the countries with the largest number of TikTok users in the world, dominated by young users. The popularity of TikTok among students indicates that digital media significantly shapes their communication patterns, information consumption, and learning preferences.

The characteristics of TikTok align with the concept of microlearning and multimedia learning theory, where information is delivered through concise audiovisual content that can improve students' attention and understanding. Several studies have shown that TikTok can support learning activities by increasing students' motivation, interest, and engagement through creative and contextual content delivery. TikTok also allows students to participate actively by responding to, creating, and sharing educational content. Consequently, TikTok has the potential to function not only as entertainment media but also as an educational medium that supports learning participation.

Nevertheless, the impact of TikTok on students' learning participation cannot be separated from students' digital literacy abilities. Digital literacy refers to the ability to access, evaluate, manage, create, and communicate information effectively through digital technologies. Students with good digital literacy are more likely to utilize TikTok productively for educational purposes, while those with lower digital literacy may use the platform primarily for entertainment and distraction. Therefore, digital literacy becomes an important factor influencing how students interact with digital media in educational contexts.

Previous studies have examined the role of TikTok in enhancing learning engagement and the influence of digital literacy on students' learning behavior. However, most studies still investigate these variables separately. Research that simultaneously analyzes the relationship between TikTok usage, digital literacy, and student participation in vocational education contexts remains limited. This gap highlights the importance of conducting further empirical investigation, particularly in Indonesian vocational high schools.

Based on these conditions, this study aims to analyze: (1) the relationship between TikTok usage and students' participation in learning, (2) the relationship between digital literacy and students' participation in learning, and (3) the simultaneous relationship between TikTok usage and digital literacy with students' participation in learning at SMKN 2 Karanganyar. The findings of this study are expected to contribute to the development of digital-based learning strategies and provide practical recommendations for integrating social media into educational practices more effectively and pedagogically.

## METHODS

### *Research Design*

This study employed a quantitative approach using an ex post facto correlational research design. Quantitative research is used to examine relationships among variables through numerical data and statistical analysis (Creswell, 2018). The ex post facto approach was selected

because the study investigated existing phenomena without manipulating the independent variables. Meanwhile, the correlational design aimed to identify the relationship between TikTok usage, digital literacy, and students' participation in learning.

The research was conducted at SMKN 2 Karanganyar, Indonesia. The population consisted of all tenth-grade students totaling 432 students. The sample was determined using the Isaac and Michael sampling table with a 5% significance level, resulting in 191 respondents. The sampling technique used was cluster sampling because the population was naturally grouped into several classes and study programs.

*Research Procedure and Data Analysis*

The research procedure was carried out through several stages. The first stage involved preliminary observation and problem identification during teaching practice activities at SMKN 2 Karanganyar. The observations revealed that students' participation in classroom learning was still relatively low, while the use of TikTok among students was highly intensive. Based on these findings, the researcher formulated the research problems and developed the conceptual framework.

The second stage involved instrument development based on the theoretical framework of participatory culture, UNESCO Digital Literacy Global Framework, and student engagement theory proposed by Fredricks et al. (2019). Three questionnaires were developed to measure TikTok usage, digital literacy, and students' participation in learning. The instruments used a Likert scale and were validated through expert judgment before being tested empirically.

The third stage consisted of instrument testing to determine validity and reliability. Instrument validity was analyzed using Pearson Product Moment correlation, while reliability testing employed Cronbach's Alpha coefficient. The validity and reliability tests were conducted on students outside the research sample to ensure the quality and consistency of the instruments.

The fourth stage was data collection, which was conducted through questionnaire distribution and documentation techniques. The questionnaires were administered directly to the respondents to obtain data regarding students' TikTok usage, digital literacy level, and participation in learning activities.

The collected data were analyzed using descriptive and inferential statistical techniques. Descriptive statistics were used to describe the characteristics of each variable, including mean, percentage, and distribution of responses. Prior to hypothesis testing, prerequisite analyses were conducted, including normality, linearity, and multicollinearity tests to ensure that the data met regression assumptions.

Hypothesis testing employed multiple linear regression analysis to examine both partial and simultaneous relationships among variables. The t-test was used to analyze the partial relationship between each independent variable and the dependent variable, while the F-test was used to determine the simultaneous relationship between TikTok usage and digital literacy with students' participation in learning. Statistical analysis was conducted using SPSS software with a significance level of 0.05.

## RESULTS AND DISCUSSION

*Results*

This study involved 191 tenth-grade students of SMKN 2 Karanganyar as research respondents. The collected data were analyzed using descriptive and inferential statistical techniques to examine the relationship between TikTok usage, digital literacy, and students' participation in learning.

The descriptive findings indicated that TikTok has become one of the most frequently used digital platforms among students. Approximately 98.4% of respondents reported actively using

TikTok in their daily activities. Most students accessed TikTok for entertainment, information seeking, communication, and viewing short-form audiovisual content. In addition, students demonstrated moderate to high levels of digital literacy and learning participation.

Before hypothesis testing, prerequisite analyses were conducted to ensure that the data fulfilled regression assumptions. The multicollinearity test showed tolerance values of 0.889 and VIF values of 1.125 for both independent variables, indicating that the regression model did not experience multicollinearity. Furthermore, the heteroscedasticity test produced significance values greater than 0.05, confirming that the residual variance was homogeneous.

*Table 1. Multicollinearity Test Results*

| Variable | Tolerance | VIF | Interpretation |
|---|---|---|---|
| TikTok Usage | 0.889 | 1.125 | No multicollinearity |
| Digital Literacy | 0.889 | 1.125 | No multicollinearity |

Source: Processed research data using SPSS 27 (2026)

*Table 2. Heteroscedasticity Test Results*

| Variable | Sig. Value | Criterion | Interpretation |
|---|---|---|---|
| TikTok Usage | 0.206 | > 0.05 | No heteroscedasticity |
| Digital Literacy | 0.748 | > 0.05 | No heteroscedasticity |

Source: Processed research data using SPSS 27 (2026)

The first hypothesis testing revealed that TikTok usage had a positive and significant relationship with students' participation in learning. The regression coefficient value was 0.568 with a t-value of 8.815 and a significance value of <0.001. These results indicate that students who utilized TikTok more actively and productively tended to demonstrate higher participation during learning activities.

*Table 3. Regression Analysis Results of TikTok Usage on Students' Participation*

| Variable | Regression Coefficient | t-value | Sig. | Interpretation |
|---|---|---|---|---|
| TikTok Usage | 0.568 | 8.815 | <0.001 | Significant positive relationship |

Source: Processed research data using SPSS 27 (2026)

The second hypothesis testing showed that digital literacy also had a positive and significant relationship with students' participation in learning. The analysis produced a regression coefficient of 0.229, a t-value of 3.335, and a significance value of 0.001. These findings suggest that students with better digital literacy skills were more capable of engaging actively in digital-based learning environments.

*Table 4. Regression Analysis Results of Digital Literacy on Students' Participation*

| Variable | Regression Coefficient | t-value | Sig. | Interpretation |
|---|---|---|---|---|
| Digital Literacy | 0.229 | 3.335 | 0.001 | Significant positive relationship |

Source: Processed research data using SPSS 27 (2026)

The simultaneous regression analysis further demonstrated that TikTok usage and digital literacy collectively had a significant relationship with students' participation in learning. The analysis produced an F-value of 60.991 with a significance value of <0.001. In addition, the coefficient of determination ($R^2$) was 0.401, indicating that TikTok usage and digital literacy contributed 40.1% to students' participation in learning, while the remaining 59.9% was influenced by other external factors.

*Table 5. Simultaneous Regression Analysis Results*

| Variable | F-value | Sig. | $R^2$ | Interpretation |
|---|---|---|---|---|
| TikTok Usage & Digital Literacy → Students' Participation | 60.991 | <0.001 | 0.401 | Significant simultaneous relationship |

Source: Processed research data using SPSS 27 (2026)

*Discussion*

The findings of this study indicate that TikTok usage has a positive and significant relationship with students' participation in learning. The significance value of <0.001 confirms that TikTok contributes substantially to students' engagement during learning activities. TikTok's short-video format, audiovisual presentation, and interactive features appear to support students' behavioral and emotional engagement by increasing attention, interest, and participation in classroom discussions and assignments.

These findings are consistent with previous studies reporting that TikTok can function as an effective digital learning medium because its content characteristics align with students' digital habits and learning preferences. The integration of TikTok into learning activities encourages students to become more active, collaborative, and responsive during the instructional process.

The study also found that digital literacy significantly influences students' participation in learning. Students with strong digital literacy skills are better able to access, evaluate, and utilize digital information critically and responsibly. As indicated by the significance value of 0.001, digital literacy contributes positively to students' ability to engage in technology-supported learning environments. This finding supports previous research emphasizing that digital literacy is an essential competency for meaningful participation in 21st-century learning.

Furthermore, the simultaneous regression analysis demonstrated that TikTok usage and digital literacy together significantly influence students' participation in learning. The coefficient of determination ($R^2$ = 0.401) indicates that both variables explain 40.1% of the variance in students' learning participation. This finding suggests that educationally oriented social media usage supported by adequate digital literacy skills can improve students' behavioral, emotional, and cognitive engagement.

From an educational perspective, the findings imply that schools and teachers should integrate digital media into learning activities more strategically and pedagogically. TikTok can be utilized not only as entertainment media but also as a learning platform that supports interactive and contextual learning experiences. However, the effective use of digital media in education requires strengthening students' digital literacy competencies to ensure responsible and productive technology use.

Overall, this study contributes empirical evidence regarding the relationship between social media usage, digital literacy, and student engagement in vocational education contexts. The findings highlight the importance of aligning educational practices with students' digital culture to create more meaningful and participatory learning environments.

## CONCLUSION

This study concludes that TikTok usage and digital literacy have positive and significant relationships with students' participation in learning at SMKN 2 Karanganyar. The results demonstrate that students who utilize TikTok more actively and educationally tend to show higher behavioral, emotional, and cognitive engagement during the learning process. In addition, students with better digital literacy skills are more capable of accessing, evaluating, and utilizing digital information productively, which contributes to stronger participation in technology-supported learning environments.

The simultaneous analysis further confirms that TikTok usage and digital literacy collectively contribute significantly to students' participation in learning, with a contribution value of 40.1%.

These findings indicate that digital learning participation is not only influenced by the availability of attractive digital media but also by students' competencies in using technology critically and responsibly. Therefore, the expectations presented in the introduction regarding the role of digital media and digital literacy in supporting student engagement were empirically confirmed through the results of this study.

The findings provide important implications for educational practices in the digital era, particularly in vocational education contexts. Social media platforms such as TikTok can be integrated into learning activities as interactive and contextual learning media that align with students' digital culture. However, the effectiveness of digital media integration depends on strengthening students' digital literacy competencies to ensure that technology is utilized productively and pedagogically.

Furthermore, this study opens opportunities for future research regarding the implementation of TikTok-based learning strategies in experimental or classroom action research designs to examine their direct effects on learning outcomes, motivation, and engagement. Future studies are also recommended to explore additional variables influencing students' participation in digital learning environments, such as learning motivation, self-regulated learning, teacher support, and digital learning readiness.

## CONFLICT OF INTEREST

The author declares no potential conflict of interest related to the research, authorship, and publication of this article.

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## REFERENCES

Afandi, S. H. (2024). *Peningkatan kualitas pembelajaran melalui kompetensi literasi digital dan continuing professional development (CPD).* Master's thesis, Universitas PTIQ Jakarta.

Ahnaf, F. H., & Rosyidah, D. A. (2025). Analisis TikTok sebagai media pembelajaran berbasis micro learning pada pembelajaran bahasa Indonesia. *Jurnal Penelitian Inovatif, 5*(2), 1751–1758. https://doi.org/10.54082/jupin.1531

Akbar, R., Sujarwo, & Safitri, D. (2025). Transformasi literasi digital siswa melalui TikTok sebagai media edukasi. *Sindoro Cendekia Pendidikan, 14*(1), 71–80. https://doi.org/10.8734/Sindoro.v1i2.365

Anisa, V., Erydani, C., Fitriati, W., Widhiyant, W., & Mujianto, J. (2024). Investigating students' cognitive engagement levels in the implementation of TikTok in the speaking classroom. *Proceedings of Fine Arts, Literature, Language, and Education*, 504–510.

Arikunto, S. (2013). *Dasar-dasar evaluasi pendidikan*. PT Bumi Aksara.

Ariyanti, I., & Hariyono, D. S. (2022). Students' engagement dalam proses pembelajaran daring melalui lesson study pada mata kuliah kalkulus integral. *Jurnal Cendekia: Jurnal Pendidikan Matematika, 6*(1), 824–836.

Barlow, A., & Brown, S. (2020). Correlations between modes of student cognitive engagement and instructional practices in undergraduate STEM courses. *International Journal of STEM Education, 7*(18), 1–15.

Budiyono, B. (2020). *Pengantar penilaian hasil belajar*. UNS Press.

Chatterjee, R., & Correia, A. (2020). Online students' attitudes toward collaborative learning and sense of community. American Journal of Distance Education, *34*(1), 53–68. https://doi.org/10.1080/08923647.2020.1703479

Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.

Deng, R. (2021). Emotionally engaged learners are more satisfied with online courses. *Sustainability, 13*, 1–19. https://doi.org/10.3390/su132011169

Dewi, R. N. (2025). *Pengaruh media pembelajaran Educandy terhadap student engagement*. Undergraduate thesis, Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Díaz-Noguera, M. D., Hervás-Gómez, C., Calle-Cabrera, A. M. D. la, & López-Meneses, E. (2022). Autonomy, motivation, and digital pedagogy are key factors in the perceptions of Spanish higher-education students toward online learning during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health, 19*(654), 1–14. https://doi.org/10.3390/ijerph19020654

Fredricks, J. A., Filsecker, M., & Lawson, M. A. (2019). Student engagement, context, and adjustment: Addressing definitional, measurement, and methodological issues. *Learning and Instruction, 43*, 1–4. https://doi.org/10.1016/j.learninstruc.2016.02.002

Ghozali, I. (2020). *25 grand theory teori besar ilmu manajemen, akuntansi dan bisnis*. Yoga Pratama.

Ghozali, I., & Kusumadewi, K. A. (2023). *Partial least squares konsep, teknik dan aplikasi menggunakan program SmartPLS 4.0 untuk penelitian empiris* (1st ed.). Penerbit Yoga Pratama.

Irwanto. (2023). Pendidikan vokasional berbasis kompetensi keterampilan di abad ke-21. *Vocational Education National Seminar (VENS) Paper*, 55–66.

Ismaniyah, F., Syafi'i, I., Fahmi, M., & Thohir, M. (2024). Pemanfaatan TikTok sebagai inovasi media pembelajaran PAI di abad 21. *La-Tahzan: Jurnal Pendidikan Islam, 17*(1), 30–40.

Jenkins, H., Ford, S., & Green, J. (2013). *Spreadable media: Creating value and meaning in a networked culture.* New York University Press.

Kassab, S. E., Eraky, M. Al, Sayed, W. El, Hamdy, H., & Schmidt, H. (2023). Measurement of student engagement in health professions education: A review of literature. *BMC Medical Education, 23*(354), 1–13. https://doi.org/10.1186/s12909-023-04344-8

Komalasari, M. D. (2024). Strategi pembelajaran literasi digital untuk siswa SD: Menyiapkan anak di era teknologi. *In Prosiding Seminar Nasional PGSD* (Vol. 5, pp. 174–184).

Kusumo, B., Sutrisman, H., Simanjuntak, R., Prihartanto, A., Askrening, A., & Yunus, R. (2024). The impact of technology-based learning on student engagement and achievement in the digital era. *International Journal of Educational Evaluation and Policy Analysis, 1*(4), 41–53. https://doi.org/10.62951/ijeepa.v1i4.55

Malika Oktavian. (2024). Indonesia pengguna TikTok terbesar dunia, kalahkan Amerika serta Brasil! https://himiunp.ac.id/2024/10/16/indonesia-pengguna-tiktok-terbesar-dunia-kalahkan-amerika-dan-brasil/

Mayer, R. E. (2024). The past, present, and future of the cognitive theory of multimedia learning. *Educational Psychology Review, 36*(1), 1–25. https://doi.org/10.1007/s10648-023-09842-1

Rahmawati, A. A. (2023). *Pengaruh kemampuan literasi digital dan pemanfaatan platform learning management system terhadap kompetensi teknologi informasi dan komunikasi guru.* Undergraduate thesis, Institut Agama Islam Negeri Ponorogo.

Rini, R., Mujiyati, Sukamto, I., & Hariri, H. (2022). The effect of self-directed learning on students' digital literacy levels in online learning. *International Journal of Instruction, 15*(3), 329–344.

Riyanto, G. P., & Pratomo, Y. (2024). Indonesia pengguna TikTok terbesar di dunia, tembus 157 juta kalahkan AS. https://tekno.kompas.com/read/2024/10/25/15020057/indonesia-pengguna-tiktok-terbesar-di-dunia-tembus-157-juta-kalahkan-as

Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D* (2nd ed.). Alfabeta.

Theworlddata.com. (2025). *TikTok statistics & TikTok facts 2025*. https://theworlddata.com/tiktok-statistics-and-tiktok-facts/

Vista, M. H. B. (2018). *Pengaruh school engagement dan dukungan sosial terhadap resiliensi santri.* Undergraduate thesis, Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Yundayani, A., & Alghadari, F. (2023). Cognitive engagement during emergency remote teaching: How students struggle. *Polyglot: Jurnal Ilmiah, 19*(2), 1–13. https://doi.org/10.19166/pji.v19i2.6005

Zafeer, H. M. I., Maqbool, S., Rong, Y., & Maqbool, S. (2025). Impact of digital learning tools on student's engagement and achievement in middle school science classes. *The International Journal of Technology in Education and Science (IJTES), 9*(2), 285–304. https://doi.org/10.46328/ijtes.622