JOURNAL OF EDUCATION AND APPLIED TEACHING (JEAT)
Volume 2 Nomor 1,2026, 1048-1056
E-ISSN: 3090-0360

Digital Media Use and Learning Motivation at SDN 4 Karang Agung Ilir, Indonesia: A Qualitative Case Study

Triyanto [1]
[1]*Universitas PGRI Palembang*
**Corresponding author: ty909881@gmail.com*

Abstrak

Integrasi media digital telah menjadi bagian penting dalam praktik pembelajaran, termasuk di sekolah dasar wilayah pedesaan. Penelitian ini bertujuan untuk menganalisis penggunaan media digital dan hubungannya dengan motivasi belajar siswa di sebuah sekolah dasar pedesaan di Kabupaten Banyuasin, Indonesia. Penelitian ini menggunakan desain studi kasus kualitatif dengan teknik pengumpulan data berupa observasi kelas, wawancara semi-terstruktur dengan guru, serta angket motivasi yang diberikan kepada 30 siswa. Hasil penelitian menunjukkan bahwa penggunaan media digital, seperti video pembelajaran dan presentasi interaktif, meningkatkan perhatian, partisipasi, dan rasa percaya diri siswa dalam kegiatan belajar. Siswa menunjukkan antusiasme yang lebih tinggi ketika materi disajikan dalam format multimedia. Namun demikian, keterbatasan infrastruktur, akses internet yang tidak stabil, serta kompetensi digital guru menjadi tantangan dalam implementasinya. Penelitian ini menyimpulkan bahwa media digital mendukung motivasi belajar di konteks pedesaan, dengan efektivitas yang dipengaruhi oleh kesiapan fasilitas dan kompetensi pendidik.

***Kata kunci*:** *media digital, motivasi belajar, sekolah dasar, pendidikan pedesaan, studi kasus kualitatif*

Abstract

The integration of digital media has increasingly shaped teaching and learning practices, including in rural educational settings. This study aimed to examine the use of digital media and its relationship with students' learning motivation in a rural elementary school in Banyuasin Regency, Indonesia. A qualitative case study design was employed, involving classroom observations, semi-structured interviews with teachers, and motivation questionnaires administered to 30 students. The findings indicated that digital media, such as instructional videos and interactive presentations, enhanced students' attention, participation, and confidence during classroom activities. Students demonstrated greater enthusiasm and engagement when learning materials were delivered through multimedia formats. However, several challenges were identified, including limited technological facilities, unstable internet connectivity, and insufficient teacher training in digital pedagogy. The study concluded that digital media supported learning motivation in rural contexts, although its effectiveness depended on infrastructure readiness and teacher competence.

Keywords: digital media, learning motivation, elementary education, rural education, qualitative case study

1. INTRODUCTION

Digital media has become increasingly central to contemporary teaching and learning because it can expand how information is represented, interacted with, and connected to learners' experiences. A growing body of work indicates that well-designed multimedia resources such as video, interactive presentations, and educational applications can enrich instructional delivery and support learners' engagement through multimodal inputs and active processing opportunities (Abdulrahaman et al., 2020; Mayer, 2024). From a design perspective, recent syntheses in multimedia learning emphasize that learning benefits are not automatic; outcomes depend on how words, images, and activities are structured to manage limited cognitive resources and to stimulate meaningful processing (Mayer, 2024). This

History:
Received : 1 March 2026
Revised : 1March 2026
Accepted : 2 March 2026
Published : 5 March 2026

Publisher: Horizon Edukasi Prima Indonesia

design sensitivity is particularly important in instructional video, where evidence-based principles (e.g., guided attention cues, generative prompts, and appropriate visual scaffolds) can make video-based instruction more effective than passive viewing (Mayer et al., 2020; Pi et al., 2020). Beyond video, meta-analytic evidence also suggests that multimedia features such as pedagogical agents may support learning when they are aligned with social-cognitive mechanisms and cognitive load considerations (Castro-Alonso et al., 2021).

Motivation is a critical mechanism through which digital media may contribute to learning quality, particularly in basic education where attention and persistence can be highly sensitive to task design. The ARCS model (Attention, Relevance, Confidence, Satisfaction) remains widely used to explain how instructional features can be deliberately structured to foster students' motivational states (Li & Keller, 2018). More recent technology-oriented reviews and meta-analyses indicate that ARCS-informed strategies embedded within technology-mediated learning can yield positive motivational and performance-related outcomes, although the magnitude of effects varies across contexts and implementation quality (Li & Keller, 2018; Ramírez-Montoya et al., 2025). In parallel, Self-Determination Theory (SDT) research highlights that students' motivation is closely tied to the satisfaction of basic psychological needs autonomy, competence, and relatedness which can be facilitated by learning environments that provide meaningful choices, structured support, and social connection (Conesa et al., 2022). A recent systematic review and meta-analysis of SDT-based educational interventions further confirms that motivational gains are more likely when classroom practices intentionally support need satisfaction rather than relying on technology as a stand-alone solution (Wang et al., 2024).

Empirically, studies across learning settings have reported that technology-enhanced instruction can be associated with improved interest, engagement, and motivation when media use is pedagogically purposeful. For example, digital game-based or technology-supported learning designs often show positive effects on motivational outcomes, though effects depend on instructional alignment, learner characteristics, and the quality of feedback and challenge (Sailer & Homner, 2020; Partovi & Razavi, 2019). In video learning specifically, instructor presence cues and attention-guidance features (e.g., gaze direction) can influence learners' attention allocation and learning performance, suggesting that "how" media is presented can shape engagement-related processes (Pi et al., 2020). Meta-analytic work also indicates that embedding active learning strategies into video-based learning can yield benefits for motivation and learning, reinforcing the importance of integrating interactive prompts rather than treating video as a passive medium (Zhang et al., 2025). Collectively, these findings support the view that digital media can contribute to motivational improvements when it is designed to be cognitively manageable and motivationally supportive (Abdulrahaman et al., 2020; Mayer et al., 2020).

However, the educational value of digital media is constrained by structural and contextual barriers that are especially visible in under-resourced settings. Systematic reviews focusing on rural schooling show that technology integration is frequently hindered by macro-level constraints (e.g., infrastructure, connectivity, policy support), meso-level constraints (e.g., school resources and leadership), and micro-level constraints (e.g., teacher readiness and classroom-level realities) (Mustafa et al., 2024). Research on classroom computing integration also demonstrates that when first-order barriers such as limited devices, unreliable internet, or insufficient technical support are high, teachers face greater difficulty sustaining meaningful technology use (Makki et al., 2018). Evidence from large-scale cross-national analyses further shows that digital readiness varies substantially across schools and learners;

inequalities in digital skill and access can amplify learning opportunity gaps, particularly when schooling becomes more technology-dependent (van de Werfhorst et al., 2022). Reviews after the pandemic also underline that the digital divide is multidimensional covering access, skills, and meaningful use and has concrete consequences for educational equity (Miras et al., 2023; Liu, 2021). Measurement-focused work on rural digital divides similarly highlights that geography and infrastructure can systematically limit connectivity and thus constrain the feasibility of technology-rich learning in rural communities (Salem & Abbas, 2021).

Teacher capacity is another decisive factor in whether digital media meaningfully supports student motivation. Contemporary frameworks argue that teacher digital competence should be conceptualized beyond basic "digital literacy," emphasizing pedagogical decision-making, ethical use, and the ability to design learning activities with technology (Falloon, 2020). Meta-analytic evidence indicates that teacher education interventions can improve teachers' TPACK-related capabilities, but effectiveness depends on the duration, coaching, and classroom relevance of the intervention design (Ning et al., 2022). Research syntheses on teachers' technology adoption also demonstrate that perceived usefulness, ease of use, and contextual support strongly shape intentions to integrate technology (Scherer & Teo, 2019). Moreover, studies indicate that teachers' internalization of barriers and beliefs may influence whether technology is used superficially or pedagogically, which is central to sustaining motivational impacts in classrooms (Vongkulluksn et al., 2018). In addition, evidence suggests that technology-related demands can contribute to teacher technostress and influence teachers' attitudes toward continued ICT use, implying that sustainable integration requires organizational and professional support (Li et al., 2024; Wang & Zhao, 2023).

The rural context adds complexity because barriers are not only technical but also spatial and institutional. Evidence from rural education research shows that rural schools often face persistent constraints in device availability, connectivity, and professional learning opportunities, which can limit both the frequency and the quality of digital media use (Kalonde, 2017; Kormos, 2018). Studies also note that teachers' attitudes toward mobile technology integration and the perceived feasibility of implementation are sensitive to school-level support and infrastructure readiness (Khlaif, 2018). Meanwhile, research suggests that differences between elementary and secondary teachers in technology integration may relate to distinctive pedagogical demands and training exposure, indicating that elementary-level implementation deserves context-specific examination (Jung et al., 2019). Consequently, although international evidence supports the potential of digital media to foster engagement and motivation, rural settings may require different implementation pathways and support structures to achieve consistent benefits (Mustafa et al., 2024; Miras et al., 2023).

Against this background, a research gap remains regarding how digital media use is experienced and interpreted by teachers and students in rural elementary classrooms where infrastructure limitations, device access, and teacher training constraints co-occur. Much of the existing evidence is drawn from contexts with comparatively stronger infrastructure or focuses on outcomes without sufficient contextual explanation of implementation dynamics (van de Werfhorst et al., 2022; Mustafa et al., 2024). In Indonesia, rural schools may face distinctive geographic and logistical challenges that affect not only access but also classroom routines and teacher decision-making; therefore, locally grounded evidence is important to

explain how digital media shapes students' learning motivation within real classroom conditions.

Accordingly, this study aims to analyze the influence of digital media use on students' learning motivation at SDN 4 Karang Agung Ilir, a rural elementary school in Banyuasin Regency, South Sumatra, Indonesia. Specifically, the study seeks to (1) describe how digital media is used during classroom learning activities, (2) examine how students' motivational indicators such as attention, participation, confidence, and learning enthusiasm are observed and reported in relation to digital media use, and (3) identify key barriers that limit effective implementation of digital-media-supported learning in this rural school context.

2. METHOD

This study employed a qualitative case study design to examine how digital media use was implemented and how it related to students' learning motivation in a rural elementary school context. A case study approach was selected because it allows in-depth exploration of a bounded system within its real-life setting, particularly when contextual conditions are inseparable from the phenomenon under investigation (Yin, 2018; Merriam & Tisdell, 2016). This design enabled the researcher to analyze classroom practices, teacher strategies, and students' motivational responses as they naturally occurred.

The research was conducted at SDN 4 Karang Agung Ilir, located in Banyuasin Regency, South Sumatra, Indonesia. The school represents a rural educational environment characterized by limited technological infrastructure and unstable internet connectivity. Participants consisted of 10 teachers and 30 students from Grades IV, V, and VI. Teachers were selected based on their involvement in digital learning practices and a minimum of two years of teaching experience, while students were purposively selected to represent diverse learning abilities and motivational levels (Creswell & Poth, 2018).

Data were collected from January to March 2025 through classroom observations, semi-structured interviews, motivation questionnaires, and documentation. Classroom observations focused on how digital media such as instructional videos and interactive presentations were integrated into teaching activities and how students responded in terms of attention, participation, and engagement. Semi-structured interviews were conducted with teachers to explore instructional preparation, perceived benefits, and implementation challenges. A 20-item learning motivation questionnaire adapted from Keller's ARCS model was administered to students before and after a one-month period of consistent digital media use. The questionnaire data were used descriptively to support qualitative findings rather than to test statistical hypotheses. Field notes and instructional documents were collected to enrich contextual understanding.

Data were analyzed using thematic analysis, which involves identifying patterns and themes within qualitative data (Braun & Clarke, 2006; Nowell et al., 2017). The analysis included data familiarization, coding, categorization of themes, and interpretation in relation to motivational theories and digital media integration frameworks. Questionnaire results were summarized descriptively to illustrate general motivational tendencies. To ensure trustworthiness, the study employed triangulation of multiple data sources, member checking with participants, peer debriefing, and maintenance of an audit trail (Lincoln & Guba, 1985; Creswell & Poth, 2018). Ethical approval was obtained from the school administration,

informed consent was secured from participants and parents, and confidentiality was maintained throughout the research process.

3. RESULT AND DISCUSSION

Result

The findings are organized into four main themes derived from classroom observations, interviews, questionnaire responses, and documentation: (1) students' motivational responses to digital media use, (2) behavioral changes in classroom participation, (3) teachers' instructional adaptation, and (4) implementation challenges in a rural context.

First, observational data indicated that students demonstrated increased attentiveness during lessons supported by digital media, such as instructional videos, animations, and interactive slide presentations. Students appeared more focused on visual explanations and showed sustained attention during multimedia-supported instruction compared to conventional textbook-based delivery. Questionnaire responses further indicated that 24 out of 30 students (80%) reported feeling more motivated to participate in lessons when digital media were used. Students frequently described digital lessons as "more interesting" and "easier to understand," particularly when visual elements clarified abstract concepts.

Second, behavioral changes in classroom engagement were observed. Students who were previously passive during conventional lectures began participating more actively in discussions and group activities. During a science lesson on the water cycle, for example, the use of an animated video facilitated students' ability to explain evaporation, condensation, and precipitation processes in their own words. Several students volunteered answers without prompting, suggesting increased confidence and willingness to contribute.

Digital quizzes and storytelling activities also appeared to stimulate interaction. Students showed enthusiasm when participating in smartphone-based quiz activities, and peer collaboration became more visible during group discussions. Teachers reported that multimedia-based instruction encouraged students to ask questions and relate content to daily experiences.

Third, teacher interviews revealed that digital media contributed to more dynamic classroom atmospheres. Teachers perceived that multimedia resources helped clarify explanations and maintain student attention. However, they also reported that preparing digital lessons required additional time and technical effort. Some teachers expressed difficulties in operating software, searching for appropriate online materials, and resolving technical issues independently.

Fourth, several contextual barriers were identified. Limited internet bandwidth, restricted access to digital devices, and occasional electricity instability constrained consistent implementation. Teachers often downloaded materials in advance or relied on personal mobile data to ensure lesson continuity. Variations in digital literacy levels among teachers and students also affected the smooth integration of technology. These findings illustrate that while digital media were associated with increased student motivation, their implementation remained influenced by structural and contextual limitations.

Discussion

The findings suggest that digital media use was associated with observable improvements in students' attentiveness, participation, and confidence in classroom activities. These patterns are consistent with multimedia learning principles, which emphasize that combining verbal and visual information can facilitate cognitive engagement when properly designed (Mayer, 2024). The observed increase in voluntary participation and student explanations during multimedia-supported lessons indicates that visual representations may have supported conceptual clarity and reduced cognitive overload.

From a motivational perspective, the findings align with the ARCS model, particularly the dimensions of attention and relevance. Students' reports that lessons were "more interesting" and "easier to understand" reflect how visual and interactive elements can capture attention and enhance perceived relevance (Li & Keller, 2018). The increased willingness to respond during discussions may also indicate enhanced confidence, another core ARCS component.

The findings can also be interpreted through Self-Determination Theory. Students' active participation and voluntary contributions suggest that digital media-supported activities may have supported feelings of competence and relatedness, particularly when interactive quizzes and group tasks were incorporated. Prior research indicates that learning environments that support competence and engagement are more likely to foster intrinsic motivation (Wang et al., 2024). However, as emphasized in previous studies, technology itself does not automatically generate motivational gains; its effectiveness depends on pedagogical design and teacher facilitation (Mayer et al., 2020).

The study also highlights the persistent influence of structural barriers in rural education contexts. Limited connectivity, inadequate devices, and uneven digital competence among teachers constrained the continuity and quality of implementation. These findings are consistent with research on rural digital divide issues, which emphasizes that infrastructure and institutional support strongly shape technology integration outcomes (Mustafa et al., 2024; van de Werfhorst et al., 2022). In this context, teachers' adaptive strategies—such as downloading materials in advance demonstrate resilience but also underscore the need for systemic support.

Importantly, the findings suggest that digital media functioned most effectively when combined with interactive instructional strategies rather than passive content delivery. When students were invited to discuss, predict, and explain, motivational indicators appeared stronger. This supports evidence that active learning strategies embedded within digital media enhance both engagement and understanding (Zhang et al., 2025).

Overall, while the study does not claim causal generalization due to its qualitative case study design, the evidence indicates that digital media use was positively associated with observable improvements in students' learning motivation within this rural elementary school. At the same time, sustainable implementation requires adequate infrastructure, teacher professional development, and institutional collaboration. Without these supports, digital media risk being inconsistently applied rather than systematically integrated into pedagogical practice.

4. CONCLUSION

This study concludes that the use of digital media in a rural elementary school was positively associated with increased student learning motivation, as reflected in greater attention, participation, confidence, and satisfaction during classroom activities. When digital tools such as instructional videos, interactive presentations, and digital quizzes were integrated effectively, they helped create a more engaging and interactive learning environment. Practically, the findings imply that successful digital learning requires not only technological availability but also strong pedagogical planning, teacher facilitation, and adequate infrastructure support, particularly in rural schools where limitations in internet connectivity and technological facilities remain challenges. Therefore, continuous teacher training in digital pedagogy and stronger institutional support from educational authorities are necessary to ensure sustainable implementation. Future research is recommended to involve multiple rural schools, apply longitudinal research designs, and incorporate broader quantitative measurements of learning outcomes in order to provide more comprehensive insights into the long-term impact of digital media on students' motivation and learning.

5. ACKNOWLEDGEMENT

The author sincerely expresses gratitude to the principal, teachers, and students of SDN 4 Karang Agung Ilir for their cooperation and active participation in this study. Appreciation is also extended to the Banyuasin Regency education authorities for granting research permission and facilitating access to the school. The author further acknowledges the valuable guidance and constructive feedback provided by academic supervisors and colleagues throughout the research process, which greatly contributed to the completion of this study.

6. REFERENCES

Abdulrahaman, M. D., Faruk, N., Oloyede, A. A., Surajudeen-Bakinde, N. T., Olawoyin, L. A., Mejabi, O. V., Imam-Fulani, Y. O., Fahm, A. O., & Azeez, A. L. (2020). Multimedia tools in the teaching and learning processes: A systematic review. *Heliyon, 6*(11), e05312. https://doi.org/10.1016/j.heliyon.2020.e05312

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Castro-Alonso, J. C., Wong, R. M., & Paas, F. (2021). Effectiveness of multimedia pedagogical agents predicted by diverse theories: A meta-analysis. *Educational Psychology Review, 33*, 989–1015. https://doi.org/10.1007/s10648-020-09587-1

Conesa, P. J., Onandia-Hinchado, I., Duñabeitia, J. A., & Moreno, M. Á. (2022). Basic psychological needs in the classroom: A literature review in elementary and middle school students. *Learning and Motivation, 79*, 101819. https://doi.org/10.1016/j.lmot.2022.101819

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.

Falloon, G. (2020). From digital literacy to digital competence: The teacher digital competency (TDC) framework. *Educational Technology Research and Development, 68*, 2449–2472. https://doi.org/10.1007/s11423-020-09767-4

Jung, Y. J., Cho, K., & Shin, W. S. (2019). Revisiting critical factors on teachers' technology integration: The differences between elementary and secondary teachers. *Asia Pacific Journal of Education, 39*(4), 548–561. https://doi.org/10.1080/02188791.2019.1620683

Kalonde, G. (2017). Technology use in rural schools: A study of a rural high school trying to use iPads in the classroom. *The Rural Educator, 38*(3), 27–38. https://doi.org/10.35608/ruraled.v38i3.218

Khlaif, Z. N. (2018). Factors influencing teachers' attitudes toward mobile technology integration in K-12. *Technology, Knowledge and Learning, 23*(1), 161–175. https://doi.org/10.1007/s10758-017-9311-6

Kormos, E. M. (2018). The unseen digital divide: Urban, suburban, and rural teacher use and perceptions of web-based classroom technologies. *Computers in the Schools, 35*(1), 19–31. https://doi.org/10.1080/07380569.2018.1429168

Li, K., & Keller, J. M. (2018). Use of the ARCS model in education: A literature review. *Computers & Education, 122*, 54–62. https://doi.org/10.1016/j.compedu.2018.03.019

Li, L., Li, L., Zhong, B., & Yang, Y. (2024). A scientometric analysis of technostress in education from 1991 to 2022. *Education and Information Technologies*. https://doi.org/10.1007/s10639-024-12781-1

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Liu, J. (2021). Bridging digital divide amidst educational change for socially inclusive learning during the COVID-19 pandemic. *SAGE Open, 11*(4). https://doi.org/10.1177/21582440211060810

Makki, T. W., O'Neal, L. J., Cotten, S. R., & Rikard, R. V. (2018). When first-order barriers are high: A comparison of second- and third-order barriers to classroom computing integration. *Computers & Education, 120*, 90–97. https://doi.org/10.1016/j.compedu.2018.01.005

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

Mayer, R. E., Fiorella, L., & Stull, A. (2020). Five ways to increase the effectiveness of instructional video. *Educational Technology Research and Development, 68*, 837–852. https://doi.org/10.1007/s11423-020-09749-6

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Miras, S., Ruiz-Bañuls, M., Gómez-Trigueros, I. M., & Mateo-Guillen, C. (2023). Implications of the digital divide: A systematic review of its impact in the educational field. *Journal of Technology and Science Education, 13*(3), 936–950. https://doi.org/10.3926/jotse.2249

Mustafa, F., Nguyen, H. T. M., & Gao, X. (2024). The challenges and solutions of technology integration in rural schools: A systematic literature review. *International Journal of Educational Research, 126*, 102380. https://doi.org/10.1016/j.ijer.2024.102380

Ning, Y., Zhou, Y., Wijaya, T. T., & Chen, J. (2022). Teacher education interventions on teacher TPACK: A meta-analysis study. *Sustainability, 14*(18), 11791. https://doi.org/10.3390/su141811791

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*(1). https://doi.org/10.1177/1609406917733847

Partovi, T., & Razavi, M. R. (2019). The effect of game-based learning on academic achievement and motivation of elementary students. *Learning and Motivation, 68*, 101592. https://doi.org/10.1016/j.lmot.2019.101592

Pi, Z., Xu, K., Liu, C., & Yang, J. (2020). Instructor presence in video lectures: Eye gaze matters, but not body orientation. *Computers & Education, 144*, 103713. https://doi.org/10.1016/j.compedu.2019.103713

Ramírez-Montoya, M. S., et al. (2025). Emerging technology-based motivational strategies: A systematic review and meta-analysis from the ARCS model. *Education Sciences, 15*(2), 197. https://doi.org/10.3390/educsci15020197

Sailer, M., & Homner, L. (2020). The gamification of learning: A meta-analysis. *Educational Psychology Review, 32*, 77–112. https://doi.org/10.1007/s10648-019-09498-w

Salem, L., & Abbas, M. (2021). Rural measures: A quantitative study of the rural digital divide. *Journal of Information Policy, 11*, 176–206. https://doi.org/10.5325/jinfopoli.11.2021.0176

Scherer, R., & Teo, T. (2019). Unpacking teachers' intentions to integrate technology: A meta-analysis. *Educational Research Review, 27*, 90–109. https://doi.org/10.1016/j.edurev.2019.03.001

van de Werfhorst, H. G., Kessenich, E., & Geven, S. (2022). The digital divide in online education: Inequality in digital readiness of students and schools. *Computers and Education Open, 3*, 100100. https://doi.org/10.1016/j.caeo.2022.100100

Vongkulluksn, V. W., Xie, K., & Bowman, M. A. (2018). The role of value on teachers' internalization of external barriers and externalization of personal beliefs for classroom technology integration. *Computers & Education, 118*, 70–81. https://doi.org/10.1016/j.compedu.2017.11.009

Wang, Q., & Zhao, G. (2023). Exploring the influence of technostress creators on in-service teachers' attitudes toward ICT and ICT adoption intentions. *British Journal of Educational Technology, 54*(6), 1771–1789. https://doi.org/10.1111/bjet.13315

Wang, Y., Wang, H., Wang, S., Wind, S. A., & Gill, C. (2024). A systematic review and meta-analysis of self-determination-theory-based interventions in the education context. *Learning and Motivation, 87*, 102015. https://doi.org/10.1016/j.lmot.2024.102015

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage.