



## Inclusive Education Management Strategies in the Digital Era: Addressing Challenges and Seizing Opportunities for Equitable Access to SDG 4

Sofia Annisa Rahma<sup>1\*</sup>, Anindya Larasati Ramadhani<sup>2</sup>, Rona Angelica Zahra<sup>3</sup>

Universitas Negeri Surabaya, Indonesia

DOI: <https://doi.org/10.52627/managere.v7i2.672>

### **Article History:**

*Received: December 2024*

*Accepted: January 2025*

*Published: July 2025*

### **Keywords:**

*Inclusive Education, SDG 4, Education Management, Digital Era, Equitable Access*

### **\*Correspondence Address:**

*sofiaannisa285@gmail.com*

### **Abstract :**

This study examines education management strategies crucial for achieving inclusive education and equitable access in the digital era, in alignment with Sustainable Development Goal 4. The primary issue raised is the disparity in access to and quality of education that still exists, particularly for vulnerable groups, amid rapid digital transformation. The study employs a qualitative design with a case study approach, utilizing in-depth interviews and document analysis as data collection methods, along with thematic analysis for data interpretation. The study's findings revealed that learning strategies and personalized instruction are crucial for accommodating the diversity of students, supported by the adaptation of teaching methods, the use of technology, and active collaboration among teachers, school management, and parents. However, the implementation of inclusive education in the digital age faces significant challenges, including limited access to technology infrastructure, a lack of teacher training in the use of inclusive technology, and a widening digital divide. On the other hand, digital technology also presents a significant opportunity to create a more adaptive, engaging, and equitable learning environment, which can ultimately enhance student motivation and participation. This research contributes to the literature by providing an in-depth and holistic qualitative analysis of the synergy between learning personalization, digital challenges, and technological opportunities in the context of inclusive education. The study's implications include specific recommendations for policy development that support the equitable distribution of digital infrastructure and teacher training, as well as practices that encourage multi-stakeholder collaboration.

## INTRODUCTION

Inclusive education and equitable access are fundamental pillars in achieving SDG 4, which aims to ensure that every individual has quality lifelong learning opportunities (Rad et al., 2022; Taneja-Johansson & Singal, 2025; Zickafoose et al., 2024). Although progress has been made, the challenges in realizing inclusive education remain complex, especially in developing countries. The UNESCO Report (2021) highlights that millions of children still lack access to education, and many who attend school face barriers to a learning environment that does not support diversity. Efforts to integrate the principles of inclusivity into Indonesia's national education system continue, but regional disparities and digital gaps remain significant obstacles (Djarmiko et al., 2025; Rahmatullah, 2025; Ssenyonga, 2021). This transformational digital era presents a range of innovative solutions, including personalized learning and access to digital resources. Ironically, this also magnifies challenges related to technology literacy and infrastructure inequality (Czerniewicz & Feldman, 2024; Dooly & Darvin, 2022; Yap et al., 2021).

Various previous studies have reviewed aspects of inclusive education and the role of technology. Several researchers have discussed and examined the application of technology in inclusive education, finding that technology can overcome barriers to access but requires a mature adoption strategy for its effectiveness (Lynch et al., 2024; Salas-Pilco et al., 2022; Shutaleva et al., 2023). Furthermore, several other studies also discuss SDG 4 in the context of sustainable development, emphasizing that inclusive and equitable education is a fundamental prerequisite for achieving these goals (Adipat & Chotikapanich, 2022; Fröberg & Lundvall, 2021; Reimers, 2024). In addition, research conducted by Blose (2025) and Shutaleva (2023) explores the integration of conservation education and technology to achieve inclusive education, suggesting that a holistic approach combining environmental values and technological innovation is indispensable. Additionally, other research examines the implementation of digital technology as a learning medium in inclusive education in Indonesia (Amka & Dalle, 2022; Rasmitadila et al., 2023; Rofiah et al., 2021), which has found that this technology improves student engagement and personalizes materials. While these studies provide a solid foundation for understanding the importance of technology and inclusivity, there is still a gap in a comprehensive understanding of adaptive and responsive education management strategies that are responsive to the dynamics of the digital age.

Although the existing literature has highlighted the importance of inclusive education and the potential of technology, a significant gap remains in understanding effective education management strategies to achieve equitable access in the digital age, particularly in complex contexts. Previous research has tended to focus on aspects of technology or inclusivity separately, or provide general policy recommendations. However, there have been few qualitative studies that have in-depth explored how various stakeholders (teachers, principals, students, and education supervisors) interpret and implement inclusive education management strategies adaptively in the field, as well as how digital challenges and opportunities specifically affect this process. These gaps create an urgent need for more detailed and contextual research, which can provide practical and theoretical insights for the development of more effective educational policies and practices.

This research makes a new contribution by offering an in-depth and holistic qualitative analysis of inclusive education management strategies and equitable access in the digital age, which explicitly integrates the perspectives of various key stakeholders. The uniqueness of this research lies in its exploration of synergies between learning personalization, digital challenges, and technological opportunities within a comprehensive analysis framework. In contrast to previous studies that may have focused on a single aspect, this study presents a multidimensional picture of how schools are adapting to the simultaneous demands of inclusivity and digitalization. This approach generates new insights into best practices, often overlooked barriers, and potential innovations that can be applied to accelerate the achievement of SDG 4, providing richer and more relevant perspectives for educational theory and practice.

This research aims to analyze in depth education management strategies that support the realization of inclusive education and equitable access in the digital era, focusing on the implementation of Sustainable Development Goal 4. This study will explore how curriculum adaptation, technology utilization, and human resource capacity development are integrated in education management practices to accommodate student diversity. In addition, this research will identify key challenges faced in this process, such as the digital divide and teacher readiness, and identify opportunities that can be leveraged through technological innovation. Thus, this study aims to provide evidence-based recommendations for the development of more effective policies and practices, ensuring that every individual has equal access to quality education amidst the ongoing digital transformation.

## RESEARCH METHOD

This research employs a case study design with a qualitative approach to explore in-depth the strategy of inclusive education management and equitable access in the digital era at MA Miftahul Ulum Lumajang. The selection of the case study design was based on its ability to provide a holistic and contextual understanding of complex phenomena in a real-world environment, which is particularly relevant to research issues on the implementation of SDG 4 in schools. This design enables researchers to investigate the interplay between various factors, including policy, teacher practice, and the role of technology, in shaping inclusive educational experiences. The qualitative approach was chosen because it provides the flexibility to capture the nuances, perspectives, and subjective experiences of stakeholders (teachers, principals, students, and education supervisors), which cannot be quantitatively measured. Thus, this design and approach facilitate an in-depth exploration of the phenomenon being researched, offering rich and detailed insights into how inclusive education is implemented in practice (Cole, 2024; Lawrence et al., 2023; Miller et al., 2023).

Data collection in this study was conducted through triangulation methods, including in-depth interviews and document analysis (Hanson-DeFusco, 2023; Kazu & Kuvvetli, 2023; Morgan, 2024). In-depth interviews were chosen to capture the subjective perspectives and first-hand experiences of the informants, which is key to understanding inclusive education management strategies from multiple perspectives. Document analysis, such as school policies and program reports, is used to reinforce and contextualize information obtained from interviews, as well as to check the consistency of the data.

The researcher acts as a key instrument, facilitating dialogue and interpretation of data with empathy and objectivity. The research informants were selected purposively based on their relevance to the topic, namely, teachers, principals, students, and education supervisors. Interactions are conducted in person to delve into rich and in-depth data. The research location is not limited geographically, but encompasses a wide range of educational contexts relevant to the implementation of inclusive education in the digital age. To ensure the credibility of the results, data triangulation techniques (comparing information from various sources) and member checking are applied systematically.

Data analysis in this qualitative research is conducted using a thematic approach, which enables the identification, analysis, and reporting of patterns (themes) within the data. The analysis process includes several stages: data reduction, data presentation, and conclusion/verification, in line with the Miles and Huberman interactive model (Rahayuningsih et al., 2023; Ray et al., 2021; Sari & Prasetyo, 2021). Data reduction involves summarizing, focusing on key points, and simplifying raw data from interview transcripts and documents, retaining only information relevant to the research question. Furthermore, the data is presented in the form of narratives and tables to facilitate understanding and identifying the relationships between the data. The final stage is the drawing of conclusions, where the meanings that emerge from the data are interpreted and verified to ensure the credibility of the findings. These measures contribute to increasing the credibility and reliability of the data interpretation process, ensuring that the research results are not only in-depth but also scientifically accountable, providing a comprehensive and detailed picture of the phenomenon being studied.

## RESULT AND DISCUSSION

### Results

#### Personalized Learning and Instruction in Inclusive Education

Personalized learning and instruction is a student-centered pedagogical approach, where the learning process is individually tailored to meet each learner's unique needs, interests, and learning styles. In the context of inclusive education, this strategy is crucial for accommodating the diversity of students, including those with special needs, ensuring that each student can learn at the pace and in the method that works best for them. The implementation of personalization involves adapting the curriculum, using varied teaching materials, and utilizing technology as a tool to provide a flexible and interactive learning experience. The goal is to maximize the potential of each student, increase motivation to learn, and create an educational environment that supports active participation and a sense of ownership of the learning process. This approach recognizes that there is no one-size-fits-all approach to education, so adjustment is key to achieving equitable access and quality of learning for all students in the digital age.

The importance of understanding students' individual needs to create an inclusive and meaningful learning experience is at the heart of this strategy. This is evidenced by the following informant statement: One teacher explained, "I adapt my teaching methods to the needs of students based on regular evaluations. In this way, I can better understand what students need to support their learning process" (W1). Additionally, the use of technology is a vital element in personalizing learning.

The following informant statement reinforces this, another teacher stated, "I use technology to support interactive learning and personalize materials. Technology is invaluable in creating a more engaging learning experience for students" (W2). The principal also shared his views on this strategy. He emphasized the importance of continuous teacher capacity building: "We integrate teacher training regularly. This is important to ensure that teachers have adequate skills in dealing with the diversity of students in the classroom" (W3). This statement underscores the school's commitment to ensuring teachers have the relevant competencies to manage diverse classrooms.

Listening to the various quotes that have been analyzed, it is clear that the implementation of learning personalization goes beyond just curriculum adaptation; It is a holistic strategy that integrates technological innovation and teacher professional development simultaneously. Based on the exposure of the findings, proactively and continuously conduct in-depth evaluations to adjust teaching approaches, a manifestation of a strong commitment to a student-centered learning model. It is undeniable that the use of technology is recognized as an essential tool in mitigating the challenges of student diversity, as it allows learning materials to be presented in a more engaging, relevant, and accessible manner. Furthermore, from a management perspective, the support of principals, as evidenced by the continuous training program, confirms that the success of this strategy is highly dependent on systematic support from the institutional level. Thus, the synergy between pedagogical adaptation, technological innovation, and institutional support is a fundamental pillar that underpins the success of learning personalization strategies in dealing with complexity and diversity in the classroom environment. In addition, the

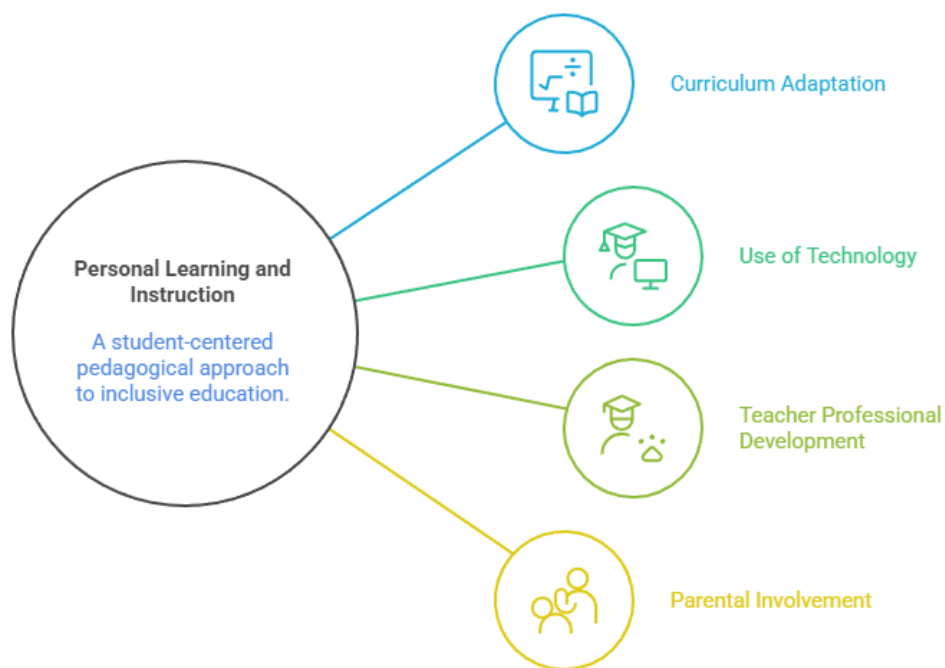


Figure 1. Personal Learning in Inclusive Education

Considering the dynamics of contemporary education, it is clear that learning strategies and personalized instruction have proven essential in achieving inclusive and adaptive education in the digital age. Building on the results of field studies and observations, the primary focus of this strategy is adaptability to the unique needs of each student. This approach acknowledges the heterogeneity of backgrounds and learning styles. It is undeniable that the use of digital technology is a crucial catalyst in facilitating personalization, allowing the presentation of material that is more flexible, interactive, and tailored to the learning pace of each student. Furthermore, the successful implementation of this approach is highly dependent on systematic support, both from the school management level that provides conducive infrastructure and policies, as well as from the active involvement of parents as strategic partners in the learning process. Therefore, the synergy between these elements is key to creating a genuinely inclusive and responsive learning environment amid an ever-evolving digital landscape.

### **The Challenges of Implementing Inclusive Education in the Digital Era**

The challenges of implementing inclusive education in the digital era refer to various obstacles that arise in efforts to realize equal and quality education for all students, especially by utilizing digital technology. The digital age, while offering great potential, also creates new complexities that need to be addressed, such as the gap in access to devices and the internet (digital divide), the lack of teacher readiness to integrate inclusive technology, and the limitations of infrastructure in remote areas. These challenges hinder equitable access to education and the quality of learning, particularly for students from low-income backgrounds or those living in areas with limited facilities. Overcoming these barriers requires a comprehensive strategy, including policies that support equitable distribution of digital infrastructure, relevant teacher training programs, and the development of universally accessible teaching materials. Without an effective address, these challenges can widen education gaps and hinder the achievement of SDG 4.

While no specific direct interview quotes address this challenge, data from informants implicitly suggest a need for infrastructure training and support. This is corroborated by field findings that identify various constraints. Analysis of the context of the interviews and other findings in the study showed that despite the enthusiasm for personalization and the use of technology, fundamental constraints such as access and teacher capacity were holding them back. Limited access to technology in some areas and a lack of teacher training in the use of inclusive technology are the main obstacles. This indicates that although the intention to implement inclusive education in the digital age is already in place, infrastructure and human resource readiness still require serious attention.

In the digital era, it is evident that the landscape of inclusive education faces significant challenges in its implementation. Based on the findings and various recent studies, the main challenge that emerges is the significant disparity in access to technology, especially in areas or communities with limited infrastructure. In addition, teachers' readiness to adopt and integrate digital devices into inclusive teaching methodologies is also crucial; This includes not only technical skills, but also relevant digital pedagogy. Furthermore, the widening digital divide between various socio-economic groups creates a dividing gap in learning opportunities, which directly impacts the quality of education students receive. Therefore, overcoming these challenges requires collective and synergistic efforts from various stakeholders to ensure the realization of a fair and equitable distribution of the quality of education for all students in this digital context.

## Inclusive Education Opportunities in the Digital Age

Inclusive educational opportunities in the digital age refer to the various positive potentials offered by information and communication technologies to create a more open, adaptive, and equal learning environment for all students. Digital technology enables the provision of educational resources that can be tailored to the individual needs of each student, including those with special needs, while also facilitating wider access to learning materials. This includes the development of flexible digital platforms, adaptive learning aids, and innovative teaching methods that can enrich the learning experience. The digital age is paving the way for distance learning, cross-border collaboration, and unlimited access to information, all of which can support the principles of inclusivity. Taking advantage of these opportunities has the potential to reduce geographical and physical barriers, increase student participation, and ensure that every child has the same opportunity to learn and develop optimally, thereby accelerating the achievement of SDG 4.

Findings gathered from interviews and research contexts indicate that stakeholders perceive positive benefits from integrating technology in inclusive education. Analysis from various sources in this study suggests that digital technology is viewed as a key catalyst for enhancing inclusivity in education. The ability of technology to provide tailored materials and wider access is considered a great opportunity. Despite the challenges, the potential of technology to create a more adaptive and engaging learning environment for all students, including those with special needs, is highly recognized. This demonstrates optimism about the role of technology in achieving a more equitable education. From this, it is evident that the opportunities for inclusive education in the digital era are as shown in Table 1.

**Table 1. Inclusive Education Opportunities in the Digital Age**

Key Opportunities	Description & Mechanism	Impact & Benefits
Personalization of Learning	Digital technology allows for the adjustment of materials and teaching methods according to the individual needs of students (including those with special needs).	Facilitating an adaptive learning environment enables students to follow the material more easily according to their capacities.
Improved Accessibility	Development of flexible digital platforms, adaptive tools, and distance learning.	Reduce geographical/physical barriers; expand access to materials and information.
Increased Student Motivation	Technology creates a more engaging, interactive, and relevant learning experience.	Enhance student engagement and foster a spirit of learning.
Stakeholder Support	Optimism about the role of technology as a catalyst for inclusivity.	Encourage the adoption and investment in integrating educational technologies.
Achieving the Goals of Inclusive Education	Technology is an essential supporting pillar.	Accelerating the achievement of equal distribution of education quality and SDG 4.
Systematic Support Needs	Technology optimization requires infrastructure support and teacher capacity building.	Ensure the full potential of technology is realized and the sustainability of its implementation is maintained.

In addition, departing from findings in the field, the integration of technology in the context of inclusive education shows a significant and multidimensional positive impact on the overall learning process. Fundamentally, technology facilitates the creation of an adaptive learning environment, allowing for more precise adjustment of materials and teaching methods according to the unique needs of each student, both for those with special needs and those who do not. From the perspective of educators, teachers who use technology in delivering materials consistently note that students have an easier time learning at their own pace. Moreover, observations also show a substantial increase in student motivation, considering that learning has become more relevant and interesting thanks to the support of technological innovation. Thus, these findings strongly indicate that technology is not just a tool, but an essential supporting pillar in achieving the goal of inclusive education in the digital age.

Digital technology offers a significant opportunity to substantially improve the inclusivity and quality of education. From a pedagogical perspective, this technology enables the provision of adaptive resources that can be precisely tailored to the individual learning needs of students, including those with diverse special needs. Furthermore, the integration of digital technology can create a significantly more engaging and interactive learning experience, thereby directly contributing to increased student motivation and engagement. However, it should be emphasized that optimizing the use of this technology cannot be achieved alone; it inherently requires systematic support from various parties, as well as ongoing efforts in capacity building for educators and related stakeholders. Without infrastructure support and competency improvement, the full potential of digital technology in the realm of inclusive education will not be fully realized.

## Discussion

This research reveals three main findings related to inclusive education management strategies and equitable access in the digital era. First, learning strategies and personalized instruction have proven essential in accommodating the diversity of students, supported by the adaptation of teaching methods, the use of technology, and the support of school management and parents. Second, the implementation of inclusive education in the digital era faces significant challenges, particularly related to limited access to technology, inadequate teacher training, and the widening digital divide. Third, the significant opportunities offered by digital technology to create a more adaptive and equitable learning environment are identified, as well as the increase in student learning motivation through the use of tailored resources. These findings collectively highlight the complexity and potential for achieving Sustainable Development Goal 4 (SDG 4) amid an ever-evolving digital landscape.

The findings of this study strengthen and develop the existing literature on inclusive education and the role of technology in the digital era. The concept of personalized learning has been proven effective, aligning with previous studies that emphasize the importance of a student-centered approach to accommodate diversity (Djarmiko et al., 2025; Rahmatullah, 2025; Taneja-Johansson & Singal, 2025). However, this study expands the understanding by explicitly highlighting the synergy between teachers, school management, and parents as a key factor of success, which is often poorly articulated in the literature. Meanwhile, challenges related to the digital divide and teacher readiness confirm findings from other studies (Dooly & Darvin, 2022; Rad et al., 2022; Salas-Pilco et al., 2022), but this study provides a more in-depth qualitative context regarding its practical implications in the field. The primary contribution of this research is to present a comprehensive picture of the dynamics of inclusive education implementation in the digital era, connecting strategies, challenges, and opportunities within a single analytical framework.

The findings of this study can be analyzed through the theoretical lens of *sensemaking*, which describes how individuals and organizations interpret new events or information to create a coherent understanding and guide action (Alsaad et al., 2023; Rylander Eklund et al., 2022; Turner et al., 2023). In this context, teachers and school administrators are actively trying to understand and adapt to the demands of inclusive education in the digital age, which presents a new and complex environment. Teachers' positive responses to learning personalization *demonstrate the sensemaking* process that succeeds in integrating technology to meet students' needs. However, challenges such as the digital divide and a lack of teacher training indicate dissonance or an incomplete understanding in the *sensemaking* process, where infrastructure and capacity are not yet fully aligned with an inclusive vision. This research contributes theoretically by showing how *sensemaking* occurs in the adaptation of education to technological change and the diversity of students, highlighting that a deep understanding requires adequate structural support and capacity.

The results of this study confirm that achieving inclusive education and equitable access in the digital era is a multidimensional effort that involves adaptive strategies, addressing infrastructure challenges, and leveraging technological opportunities. The findings of this study significantly enrich the understanding of the dynamics of SDG 4 implementation, especially in the Indonesian context. The primary contribution of this research is to provide an in-depth qualitative analysis of how learning personalization, digital challenges, and technological potentials interact to shape an inclusive education landscape. This research builds upon previous studies by presenting perspectives from a diverse range of stakeholders and providing a practical framework for policymakers and practitioners. Furthermore, this study enriches the theory of *sensemaking* by demonstrating how interpretation and adaptation to changes in the digital age influence the success of inclusive education initiatives, underscoring the importance of aligning vision, capacity, and resources.

## CONCLUSION

This study examines crucial efforts to ensure equitable and inclusive quality education for all amid the rapid development of the digital era. The findings suggest that adaptive education management strategies, particularly through personalized learning and instruction, are an important foundation in accommodating student diversity. However, the full realization of inclusive education in the digital age is still hindered by significant challenges, such as technology access gaps and a lack of teacher capacity. On the other hand, digital technology offers an excellent opportunity to create a more adaptive and engaging learning environment. Therefore, close collaboration is necessary between policymakers, educational institutions, and practitioners to overcome existing barriers, optimize technological potential, and formulate policies that support the equitable distribution of infrastructure and teacher professional development, thereby accelerating the achievement of Sustainable Development Goal 4.

## REFERENCES

- Adipat, S., & Chotikapanich, R. (2022). Sustainable Development Goal 4: An Education Goal to Achieve Equitable Quality Education. *Academic Journal of Interdisciplinary Studies*, 11(6), 174–183. <https://doi.org/10.36941/ajis-2022-0159>
- Alsaad, A., Alam, M. M., & Lutfi, A. (2023). A Sensemaking Perspective on the Association Between Social Media Engagement and Pro-Environment Behavioural Intention. *Technology in Society*, 72, 102201. <https://doi.org/10.1016/j.techsoc.2023.102201>
- Amka, A., & Dalle, J. (2022). The Satisfaction of the Special Need' Students With E-Learning Experience During COVID-19 Pandemic: A Case of Educational Institutions in Indonesia. *Contemporary Educational Technology*, 14(1). <https://doi.org/10.30935/cedtech/11371>
- Blose, P. (2025). Pedagogical Approaches for Teaching Education for Sustainable Development in the Technology Education Curriculum. *Research in Social Sciences and Technology*, 10(1), 209–232. <https://doi.org/10.46303/ressat.2025.12>
- Cole, R. (2024). Inter-Rater Reliability Methods in Qualitative Case Study Research. *Sociological Methods and Research*, 53(4), 1944–1975. <https://doi.org/10.1177/00491241231156971>
- Czerniewicz, L., & Feldman, J. (2024). 'Technology Is Not Created by the Sky': Datafication and Educator Unease. *Learning, Media and Technology*, 49(3), 428–441. <https://doi.org/10.1080/17439884.2023.2206137>
- Djatmiko, G. H., Sinaga, O., & Pawirosumarto, S. (2025). Digital Transformation and Social Inclusion in Public Services: A Qualitative Analysis of E-Government Adoption for Marginalized Communities in Sustainable Governance. *Sustainability (Switzerland)*, 17(7), 2908. <https://doi.org/10.3390/su17072908>
- Dooly, M., & Darvin, R. (2022). Intercultural Communicative Competence in the Digital Age: Critical Digital Literacy and Inquiry-Based Pedagogy. *Language and Intercultural Communication*, 22(3), 354–366. <https://doi.org/10.1080/14708477.2022.2063304>
- Fröberg, A., & Lundvall, S. (2021). The Distinct Role of Physical Education in the Context of Agenda 2030 and Sustainable Development Goals: An Explorative Review and Suggestions for Future Work. *Sustainability (Switzerland)*, 13(21), 11900. <https://doi.org/10.3390/su132111900>
- Hanson-DeFusco, J. (2023). What Data Counts in Policymaking and Programming Evaluation – Relevant Data Sources for Triangulation According to Main Epistemologies and Philosophies Within Social Science. *Evaluation and Program Planning*, 97, 102238. <https://doi.org/10.1016/j.evalprogplan.2023.102238>
- Kazu, İ. Y., & Kuvvetli, M. (2023). A Triangulation Method on the Effectiveness of Digital Game-Based Language Learning for Vocabulary Acquisition. *Education and Information Technologies*, 28(10), 13541–13567. <https://doi.org/10.1007/s10639-023-11756-y>
- Lawrence, K., Singh, N., Jonassen, Z., Groom, L. L., Arias, V. A., Mandal, S., Schoenthaler, A., Mann, D., Nov, O., & Dove, G. (2023). Operational Implementation of Remote Patient Monitoring Within a Large Ambulatory Health System: Multimethod Qualitative Case Study. *JMIR Human Factors*, 10(1), e45166. <https://doi.org/10.2196/45166>

- Lynch, P., Singal, N., & Francis, G. A. (2024). Educational Technology for Learners With Disabilities in Primary School Settings in Low- and Middle-Income Countries: A Systematic Literature Review. *Educational Review*, 76(2), 405–431. <https://doi.org/10.1080/00131911.2022.2035685>
- Miller, E. M., Porter, J. E., & Barbagallo, M. S. (2023). Simplifying Qualitative Case Study Research Methodology: A Step-By-Step Guide Using a Palliative Care Example. *Qualitative Report*, 28(8), 2363–2379. <https://doi.org/10.46743/2160-3715/2023.6478>
- Morgan, H. (2024). Using Triangulation and Crystallization to Make Qualitative Studies Trustworthy and Rigorous. *Qualitative Report*, 29(7), 1844–1856. <https://doi.org/10.46743/2160-3715/2024.6071>
- Rad, D., Redeş, A., Roman, A., Ignat, S., Lile, R., Demeter, E., Egerău, A., Dughi, T., Balaş, E., Maier, R., Kiss, C., Torkos, H., & Rad, G. (2022). Pathways to Inclusive and Equitable Quality Early Childhood Education for Achieving SDG4 Goal—A Scoping Review. *Frontiers in Psychology*, 13, 955833. <https://doi.org/10.3389/fpsyg.2022.955833>
- Rahayuningsih, S., Kartinah, & Nurhusain, M. (2023). Students' Creative Thinking Stages in Inquiry-Based Learning: A Mixed-Methods Study of Elementary School Students in Indonesia. *Acta Scientiae*, 25(3), 238–272. <https://doi.org/10.17648/acta.scientiae.7612>
- Rahmatullah, M. H. S. H. P. A. S. (2025). Inclusive Education and Social Transformation: Analysing the Role of Education Policy in Increasing Equality Among Rural Students in Indonesia. *Educational Research for Social Change*, 14(1), 43–69.
- Rasmitadila, R., Rachmadtullah, R., Samsudin, A., Nurtanto, M., & Jauhari, M. N. (2023). Limited Face-to-Face Learning on Students in Inclusive Classrooms During the COVID-19 Pandemic: Perceptions of Elementary School Teachers in Indonesia. *Cogent Education*, 10(1), 2213612. <https://doi.org/10.1080/2331186X.2023.2213612>
- Ray, P., Reddy, S. S., & Banerjee, T. (2021). Various Dimension Reduction Techniques for High Dimensional Data Analysis: A Review. *Artificial Intelligence Review*, 54(5), 3473–3515. <https://doi.org/10.1007/s10462-020-09928-0>
- Reimers, F. M. (2024). The Sustainable Development Goals and Education, Achievements and Opportunities. *International Journal of Educational Development*, 104, 102965. <https://doi.org/10.1016/j.ijedudev.2023.102965>
- Rofiah, N. H., Kawai, N., & Hayati, E. N. (2021). Key Elements of Disaster Mitigation Education in Inclusive School Setting in the Indonesian Context. *Jamba: Journal of Disaster Risk Studies*, 13(1), 1–8. <https://doi.org/10.4102/JAMBA.V13I1.1159>
- Rylander Eklund, A., Navarro Aguiar, U., & Amacker, A. (2022). Design Thinking as Sensemaking: Developing a Pragmatist Theory of Practice to (Re)Introduce Sensibility. *Journal of Product Innovation Management*, 39(1), 24–43. <https://doi.org/10.1111/jpim.12604>
- Salas-Pilco, S. Z., Xiao, K., & Oshima, J. (2022). Artificial Intelligence and New Technologies in Inclusive Education for Minority Students: A Systematic Review. *Sustainability (Switzerland)*, 14(20), 13572. <https://doi.org/10.3390/su142013572>
- Sari, D. M. M., & Prasetyo, Y. (2021). Project-Based-Learning on Critical Reading Course to Enhance Critical Thinking Skills. *Studies in English Language and Education*, 8(2), 442–456. <https://doi.org/10.24815/siele.v8i2.18407>

- Shutaleva, A. (2023). Ecological Culture and Critical Thinking: Building of a Sustainable Future. *Sustainability (Switzerland)*, 15(18), 13492. <https://doi.org/10.3390/su151813492>
- Shutaleva, A., Martyushev, N., Nikonova, Z., Savchenko, I., Kukartsev, V., Tynchenko, V., & Tynchenko, Y. (2023). Sustainability of Inclusive Education in Schools and Higher Education: Teachers and Students With Special Educational Needs. *Sustainability (Switzerland)*, 15(4), 3011. <https://doi.org/10.3390/su15043011>
- Ssenyonga, M. (2021). Imperatives for Post COVID-19 Recovery of Indonesia's Education, Labor, and SME Sectors. *Cogent Economics and Finance*, 9(1), 1911439. <https://doi.org/10.1080/23322039.2021.1911439>
- Taneja-Johansson, S., & Singal, N. (2025). Pathways to Inclusive and Equitable Quality Education for People With Disabilities: Cross-Context Conversations and Mutual Learning. In *International Journal of Inclusive Education* (Vol. 29, Issue 1, pp. 1–16). Taylor & Francis. <https://doi.org/10.1080/13603116.2021.1965799>
- Turner, J. R., Allen, J., Hawamdeh, S., & Mastanamma, G. (2023). The Multifaceted Sensemaking Theory: A Systematic Literature Review and Content Analysis on Sensemaking. *Systems*, 11(3), 145. <https://doi.org/10.3390/systems11030145>
- UNESCO. (2021). *Global Education Monitoring Report 2021*. In *Inclusive Education Across Cultures: Crossing Boundaries, Sharing Ideas* (pp. 1–165). UNESCO. [https://en.unesco.org/gem-report/non-state\\_actors](https://en.unesco.org/gem-report/non-state_actors)
- Yap, S. F., Xu, Y., & Tan, L. P. (2021). Coping With Crisis: The Paradox of Technology and Consumer Vulnerability. *International Journal of Consumer Studies*, 45(6), 1239–1257. <https://doi.org/10.1111/ijcs.12724>
- Zickafoose, A., Ilesanmi, O., Diaz-Manrique, M., Adeyemi, A. E., Walumbe, B., Strong, R., Wingenbach, G., Rodriguez, M. T., & Dooley, K. (2024). Barriers and Challenges Affecting Quality Education (Sustainable Development Goal #4) in Sub-Saharan Africa by 2030. *Sustainability (Switzerland)*, 16(7), 2657. <https://doi.org/10.3390/su16072657>