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Navigating AI in elementary education: Teacher insights on its effectiveness and challenges

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ABSTRACT

This qualitative study explores the perspectives of elementary teachers in the Philippines on integrating Artificial Intelligence (AI) tools in the classroom. While AI is rapidly transforming educational landscapes globally, its implementation in local contexts requires an in-depth understanding of frontline educators' experiences (UNESCO, 2021). Using a qualitative research design, this study interviewed 15 elementary teachers to identify their perceptions of AI's effectiveness in enhancing instructional delivery, its impact on student engagement (Bond et al., 2020), and the specific challenges faced during integration. Thematic analysis was employed to interpret the data (Mercado, 2024). Preliminary expectations suggest that while teachers recognize AI's potential to reduce administrative burdens, they encounter significant barriers, including technological limitations and ethical concerns (Selwyn, 2019). The findings provide essential insights for policymakers to develop teacher-centric AI integration

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Introduction

The rapid emergence of Artificial Intelligence (AI) has initiated a paradigm shift in the global educational landscape, transitioning from traditional pedagogical methods to technology-driven instructional frameworks (Luckin & Holmes, 2016). In the Philippines, this digital transformation is championed by the Department of Education's commitment to modernizing the classroom through various computerization programs and the promotion of digital literacy to support learning continuity (DepEd, 2020). As AI tools such as generative chatbots, automated grading systems, and adaptive learning platforms become more accessible, they offer promising solutions to long-standing educational hurdles, including large class sizes and educators' heavy administrative workload (Davar et al., 2025).

However, the successful integration of AI in the classroom depends not only on the availability of the technology but also on the readiness and perceptions of the teachers who facilitate it. In the elementary level, where foundational learning is critical, the role of the teacher remains irreplaceable. While global studies highlight the efficiency of AI in providing real-time feedback and personalized learning paths (Chen et al., 2020), there is significant concern about the "digital divide" and the localized challenges faced by teachers in developing nations such as the Philippines (World Bank, 2018). These challenges range from inconsistent internet connectivity to a lack of formal training in AI ethics and applications.

Despite the growing body of literature on student-led AI usage, there is a notable gap in localized qualitative research that captures the nuanced lived experiences and "front-line" perspectives of elementary teachers. Understanding how these educators perceive AI's effectiveness in enhancing instructional delivery and classroom engagement is vital for meaningful reform (Bond et al., 2020). Without a clear understanding of teacher perspectives, technological implementation risks becoming a burden rather than a benefit. Therefore, this study aims to explore the perspectives of elementary teachers in the Philippines, documenting their insights into the effectiveness, outcomes, and systemic challenges of AI integration to inform future educational policies and professional development programs (World Bank, 2019).

Literature review

Global trends in AI education

The most significant global trend is the shift toward Personalized Learning, in which AI algorithms analyze student performance data in real time to adjust the difficulty and style of content (Zawacki-Richter et al., 2019). Globally, AI-powered tutors are being deployed to provide tailored feedback at scale, which was previously impossible in traditional classroom settings (World Bank, 2024). This trend is particularly relevant to elementary education, as it allows teachers to address "learning poverty" by identifying specific gaps in foundational literacy and numeracy (World Bank, 2019).

Since 2022, the emergence of Generative AI tools like ChatGPT has revolutionized how teachers prepare for classes. Educators are now using AI to generate Smart Content, including bite-sized learning modules, digital textbooks, and automated lesson plans (Tambuskar, 2022). This trend is shifting the teacher's role from a content creator to a content curator, allowing them to focus more on mentoring and high-level instructional strategies rather than administrative preparation (World Bank, 2024).

There is a growing global consensus that AI should not be viewed as a replacement for teachers but as a tool for Human Augmentation. Research indicates that while AI can handle routine tasks like grading and resource organization, the human element, specifically the teacher-student relationship, remains the core of effective learning (Selwyn, 2019). In the Philippine context, teachers are increasingly open to this "complementary" approach, believing that AI can add value to traditional teaching methods while they maintain professional autonomy (Fillis et al., 2025).

A critical global trend, especially in developing nations, is the effort to ensure that AI does not widen existing inequalities. While developed countries are experimenting with advanced AI simulations, global policymakers are focusing on "Universal Access" tools, such as real-time translators and accessibility features for students with impairments (Tambuskar, 2022). However, the "digital divide" remains a persistent challenge in the Philippines, where infrastructure gaps often dictate the pace of AI adoption (World Bank, 2018).

Teacher instructional quality

Instructional quality is defined by the teacher's ability to structure lessons to reduce cognitive load while maximizing student discovery. In the modern classroom, TIQ is increasingly tied to how teachers leverage technology to provide real-time, adaptive feedback (Luckin & Holmes, 2016). For elementary teachers in the Philippines, instructional quality is often measured by their ability to simplify complex concepts, a task that AI-driven tools can support by generating localized and diverse learning materials (UNESCO, 2021).

A high level of instructional quality is characterized by a "supportive climate" where the teacher manages time and behavior effectively to keep students on task. Research indicates that educational technology can facilitate student engagement by making lessons more interactive (Bond et al., 2020). For teachers, using AI not as a replacement but as a "co-pilot" to monitor student progress allows teachers to focus on emotional support and high-level classroom facilitation (Chen et al., 2020).

The hallmark of instructional quality is differentiation, the teacher's ability to adjust instruction to students' varying skill levels (Goyibova et al., 2025). High-quality instruction ensures that no student is left behind, particularly in foundational years (World Bank, 2019). However, teachers often face the challenge of "learning poverty," in which large class sizes make personalized instruction difficult (UNICEF, 2022).

It also includes the teacher's own "self-efficacy" and willingness to adopt innovative practices. The quality of instruction suffers when there is a lack of professional development on new tools; therefore, TIQ is intrinsically linked to teachers' digital literacy and the ethical use of technology (Selwyn, 2019).

Technological barriers in the Philippines

In the local context, the integration of Artificial Intelligence (AI) in elementary education faces significant structural and systemic hurdles that complicate the transition to a digital-first classroom. The primary barrier is the persistent "digital divide," which creates a gap between urban and rural schools regarding access to high-speed internet and modern hardware (Ali et al., 2024). This infrastructure disparity is a critical concern, as the World Bank (2018) emphasizes that technology can only realize its promise of "learning for all" if the foundational infrastructure is equitable and accessible. For many elementary teachers in the Philippines, especially those in remote areas, the promise of AI-driven personalized learning is often hindered by frequent power interruptions and unstable connectivity, which disrupt instructional flow.

Furthermore, the Philippine education system faces the challenge of "learning poverty," in which many students struggle with foundational literacy and numeracy. This crisis can be exacerbated by poorly integrated technology (World Bank, 2019). Teachers often find themselves in a "technological paradox." While AI tools like generative chatbots and adaptive platforms have the potential to reduce administrative burdens and assist with lesson preparation, the lack of official government-funded training programs leaves many educators feeling ill-equipped to use these tools effectively. This lack of professional development leads to a "digital literacy gap" among teachers, making them hesitant to fully adopt AI for fear of academic dishonesty or technical failure (Selwyn, 2019).

Additionally, the economic realities of the Philippine public school system mean that the cost of premium AI subscriptions and the maintenance of high-end devices are often passed on to teachers or parents, further widening the inequality gap (UNICEF, 2022). Without a centralized framework and robust technical support from the Department of Education, elementary teachers are forced to rely on their personal resources to bridge these technological gaps (Tang et al., 2025). Consequently, while AI offers a path toward educational modernization, these systemic barriers suggest that technological integration in the Philippines is not merely a matter of software adoption but a complex socio-economic challenge requiring a teacher-centric, policy-driven solution (UNESCO, 2021).

Ethical and cognitive concerns

Ethical considerations in the Philippine context often begin with data privacy and the security of young learners. Teachers express apprehension regarding how AI platforms collect and utilize student data, raising questions about the long-term implications of digital footprints established at an early age (UNESCO, 2021). Furthermore, the "digital divide" poses a significant ethical challenge. When AI tools are integrated into the curriculum, there is a risk of widening the gap between students with high-speed internet access and those in marginalized or rural areas lacking basic digital infrastructure (World Bank, 2019).

In addition to equity, teachers are the primary guardians of academic integrity. The ease with which AI can generate content creates a "moral hazard" in the classroom, where the distinction between a student's original thought and AI-generated output becomes blurred (Selwyn, 2019). This forces teachers to move away from traditional assessment methods toward more process-oriented evaluations to ensure that the work truly reflects the student's own effort and learning.

Statement of the problems

This study aims to explore and understand the perspectives of 15 elementary school teachers in the Philippines regarding the integration of Artificial Intelligence (AI) tools into their classrooms. Specifically, it seeks to describe their lived experiences in terms of instructional effectiveness, the outcomes they observe in their students, and the challenges they navigate in a localized educational setting.

Specifically, the study seeks to answer the following questions:

1. How do elementary teachers perceive the effectiveness of AI as an instructional "force multiplier"?

1.1. In what ways does AI assist in resource localization and visual augmentation?

1.2. How does AI efficiency impact the "pre-active" teaching phase?

2. What systemic and ethical "front-line" hurdles do teachers encounter?

2.1. How does infrastructure inequity (the Digital Divide) affect classroom implementation?

2.2. What are the implications of "professional unpreparedness" and "ethical ambiguity" in the local context?

Research methodology

This section describes the research design, locale, participants, instruments, data collection procedures, and data analysis methods used to explore teachers' perspectives on AI integration.

Research design

This study utilizes a Qualitative Research Design, specifically a Phenomenological approach, to understand the lived experiences and subjective perspectives of educators. Unlike quantitative methods that focus on numerical trends, this design allows for an in-depth exploration of the "how" and "why" behind teachers' attitudes toward AI tools (Mercado, 2024). This approach is most appropriate for capturing the nuances of classroom life and the complex ethical and cognitive concerns that cannot be measured by scales alone.

Locale of the study

The study is conducted within selected elementary schools in the Philippines. This setting is chosen due to the Department of Education's recent push for digital transformation amidst varying levels of technological infrastructure in local schools (DepEd, 2020).

Participants of the study

The participants consist of elementary school teachers selected through Purposive Sampling. To ensure a rich data set, the inclusion criteria require that participants:

1. Are currently teaching in a public or private elementary school.
2. Have at least one year of experience utilizing or observing AI tools (such as ChatGPT, Canva Magic Write, or adaptive learning platforms) in their teaching practice.
3. Represent various grade levels (Kindergarten to Grade 6) to provide a holistic view of elementary education.

Research instrument

The primary instrument is a Semi-Structured Interview Guide. This tool contains open-ended questions aligned with the Statement of the Problem, allowing the researcher to probe more deeply into participants' responses. The guide focuses on:

1. Effectiveness of AI as an instructional "force multiplier".

2. Systemic and ethical hurdles that teachers encounter.

Ethical considerations

Ethical standards were strictly observed throughout the conduct of this study. Before data collection, formal permission was obtained from the school administrations of various elementary schools. Participants were clearly informed about the research's purpose, the procedures involved, and their role in the study. Informed consent was obtained from all respondents, and they were assured that participation was entirely voluntary. Teachers were informed that they could withdraw from the study at any time without penalty or academic consequences.

Confidentiality and anonymity were carefully maintained to protect participants' identities. No names or personally identifiable information were included in the questionnaire or in the presentation of results. All collected data were used solely for academic and research purposes and were stored securely to prevent unauthorized access.

The study avoided any form of deception, coercion, or manipulation. Participants were treated with respect and fairness throughout the process. Findings were reported honestly and objectively, ensuring accuracy and integrity in data presentation.

By adhering to these ethical principles, the research safeguarded the rights, dignity, and well-being of all participants.

Results

The analysis of the interviews conducted with 15 elementary teachers in the Philippines yielded the following key results. These findings are categorized into two major themes that address the research questions regarding effectiveness and challenges.

Problem 1: How do elementary teachers perceive the effectiveness of AI as an instructional "force multiplier"?

Table 1 presents the key themes, Sub-Themes, and Key findings/teacher insights on the integration of AI as a force multiplier.

Table 1: Teachers' perceptions on the use of AI as an instructional “force multiplier”

Major Themes	Sub-Themes (Qualitative Codes)	Key Findings / Teacher Insights
Theme 1: Instructional transformation & efficiency	- Automated Preparation - Visual Augmentation - Resource Localization	Teachers view AI as a "force multiplier" that reduces administrative work. It allows for the rapid creation of localized,

		visually stimulating materials for elementary learners.
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Source of data: This table was constructed from primary qualitative data generated through semi-structured interviews with fifteen (n=15) elementary school teachers within the Schools Division of Ilocos Norte.

How do the teachers perceive the effectiveness of AI in daily teaching

The study found that the 15 elementary teachers perceive AI integration as a "force multiplier" for instructional preparation and a "catalyst" for visual classroom engagement.

Teachers reported a radical shift in their "pre-active" teaching phase. The qualitative data revealed that AI tools such as ChatGPT, Canva Magic, and automated quiz generators have significantly reduced the time spent on "clerical" tasks. Participants noted that tasks such as drafting lesson plans, creating detailed rubrics, and generating reading comprehension questions, which traditionally took several hours, can now be done in seconds. As Teacher 3 said, *"As an elementary teacher, I used to spend my entire Sunday evening just making rubrics and simplified reading texts. Now, I use AI to generate a 'base,' and then I add the local flavor."*

This confirms the "Intelligence Unleashed" theory by Luckin & Holmes (2016), which posits that AI's greatest immediate value in education lies in liberating teachers from routine administrative burdens, enabling them to focus on human-centric mentoring.

Problem 2: What systemic and ethical "front-line" hurdles do teachers encounter?

Table 2 presents the key themes, Sub-Themes, and Key findings/Teacher Insights about the systemic and ethical hurdles they encounter

Table 2: Systemic and ethical hurdles that teachers encounter

Major Themes	Sub-Themes (Qualitative Codes)	Key Findings / Teacher Insights
Theme 2: Systemic and Ethical Navigations	- Infrastructure Inequity (Digital Divide) - Academic Integrity Concerns - Professional Unpreparedness	Teachers highlight a disconnect between available AI technology and the realities of local classroom resources, as well as a lack of clear ethical guidelines.

Source of Data: Primary qualitative data were obtained from semi-structured interviews with 15 elementary teachers within the Schools Division of Ilocos Norte.

Outcomes of AI integration based on teachers' perception in terms of systemic and ethical hurdles experienced by the teachers

The thematic analysis reveals that the primary obstacle to AI integration in the Philippine elementary setting is not teacher resistance, but rather a series of pervasive systemic limitations. The most dominant finding identifies a critical "Digital Divide," where the theoretical accessibility of AI tools is rendered moot by the lack of foundational infrastructure. For instance, Teacher Insight 15 highlighted the inequity of connectivity, noting that school Wi-Fi is often restricted to administrative offices, forcing a reliance on student data that many cannot afford. Similarly, Teacher Insight 6 pointed to a *"hardware-software mismatch,"* in which outdated laptops cannot run modern AI applications smoothly. These lived experiences corroborate the World Bank's (2019) findings on "Learning Poverty," which assert that technology cannot bridge educational gaps if physical infrastructure remains inequitable.

Beyond physical barriers, the results for the second research problem reveal a "front-line" challenge defined by a Policy Vacuum. While educators demonstrate a clear willingness to innovate, they are hindered by a lack of official guidance regarding the ethical use of AI and academic integrity. As noted by Selwyn (2019), this lack of institutional framework often leads to a sense of "Professional Unpreparedness," leaving teachers feeling technologically vulnerable and forced to self-teach through social media in the absence of formal pedagogical training. This ambiguity regarding student output and original thought is a risk that UNESCO (2021) suggests must be managed through proactive, teacher-centric integration strategies. Ultimately, the findings suggest that for AI integration to be successful in the Philippines, the government must provide a comprehensive Ethical Roadmap alongside robust, localized infrastructure.

Discussion

The integration of Artificial Intelligence (AI) into the Philippine elementary education landscape is not merely a technical transition but a complex navigation through systemic readiness and professional ethics. As educators move toward digital transformation, they encounter a landscape defined by sharp contrasts between technological potential and localized reality (McCarthy et al., 2025). This aligns with global observations that AI integration in education is shaped not only by technological advancement but also by institutional readiness and policy support (UNESCO, 2021; World Bank, 2024). This section explores the "front-line" hurdles faced by elementary teachers, focusing on how infrastructure, ethics, and professional preparation intersect to shape the future of AI in local schools.

Additionally, the qualitative data revealed that the "Digital Divide" serves as the most significant systemic barrier to equitable AI adoption. Teachers consistently reported that while AI tools are theoretically accessible, the physical infrastructure of local schools often renders them unusable in practice. Participant 15 shared, *"I want to use AI tools during my science lesson, but our school Wi-Fi is only available in the office. If I ask my students to use their data, it is unfair to those who cannot afford it."* This finding is corroborated by the World Bank (2019), which highlights that in developing nations, infrastructure inequality remains the primary obstacle to learning equity. Similar findings emphasize that without equitable access to digital resources, educational technologies risk widening existing gaps (UNICEF, 2022). Beyond physical tools, there is a noted "Professional Unpreparedness," where teachers feel they are self-teaching in a vacuum. Participant 8 remarked, *"Most of what I know about AI, I learned*

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from social media. We have not had a formal seminar specifically for AI pedagogy." This suggests a gap in institutional support that leaves teachers feeling "technologically vulnerable" despite their willingness to innovate, a concern also raised in studies on teacher readiness in AI integration (Selwyn, 2019).

However, even when technical barriers are minimized, teachers are confronted with profound ethical and cognitive dilemmas that global frameworks have yet to fully address in localized contexts (Ofem et al., 2026). There is a pervasive "Ethical Ambiguity" regarding academic integrity and the definition of original student work. One participant expressed this struggle: *"I am in a gray area. If a Grade 4 student submits a perfect essay, I know they used a tool, but we have no official memo telling us how to grade AI-assisted work."* This aligns with concerns that AI blurs the boundaries of authorship and originality in educational settings (Neil Selwyn, 2019; UNESCO, 2021). Furthermore, the cognitive risk of "over-reliance" weighs heavily on educators. Teachers fear that the convenience of AI is eroding the foundational "mental grit" required at the elementary level, echoing arguments that AI should augment rather than replace human cognitive processes in learning (Luckin & Holmes, 2016).

Ultimately, the study concludes that for AI to be successfully integrated into the Philippine elementary classroom, the focus must shift from procuring software to building robust infrastructure and providing teachers with the ethical and professional roadmap necessary to protect the cognitive development of young learners. This reflects broader recommendations that effective AI integration depends on systemic investment in infrastructure, teacher training, and governance frameworks (World Bank, 2024; UNESCO, 2021).

This study contextualizes the Intelligence Unleashed framework and the theory of human augmentation within the unique socio-economic landscape of the Philippines. It highlights that AI effectiveness is not just a function of software capability but also dependent on "systemic readiness" (Luckin & Holmes, 2016). The findings provide essential insights to help policymakers develop teacher-centric AI integration strategies. It emphasizes that the Department of Education must provide a clear ethical roadmap and centralized framework to move teachers out of the "gray area" of assessment. The study is limited to the lived experiences of 15 elementary teachers in a specific locale so that the results may vary across regional or private school contexts. Future research should focus on the long-term cognitive impact of AI dependency on elementary learners' foundational literacy and numeracy, as well as comparative studies of AI readiness between urban and rural schools to examine further the Digital Divide (World Bank, 2019).

Conclusion

The journey of integrating Artificial Intelligence (AI) into the elementary classrooms of the Philippines is a story of both remarkable promise and significant caution. This research has shown that for teachers, AI is not merely a technical upgrade; it is a "digital companion" that has begun to lift the heavy burden of lesson preparation and administrative work. By streamlining the creation of instructional materials and generating vibrant visuals, AI allows educators to reclaim their time and refocus their energy on the heart of teaching—connecting with their students. In this regard, the effectiveness of AI is undeniable,

as it provides a much-needed boost to teacher productivity in a demanding educational landscape (Luckin & Holmes, 2016).

However, as we look through the eyes of our 15 teacher-participants, we see that this convenience comes with a "hidden cost." The most striking finding is the delicate balance between helping a child and hindering their growth. While AI makes learning more exciting, it also risks creating a "shortcut culture" where the natural struggle to think, solve, and create is replaced by the instant gratification of a machine's output. For elementary learners, who are in their most critical stage of cognitive development, this dependency could quietly erode the independent critical thinking skills that schools are meant to build (Selwyn, 2019).

Furthermore, this study highlights that technology does not exist in a vacuum. In the Philippines, the "Digital Divide" remains a persistent shadow, where the lack of stable internet and gadgets transforms a tool meant for empowerment into a source of inequality. Without clear ethical guidelines and professional training, teachers are left to navigate a "policy vacuum," making difficult decisions about academic honesty and digital safety on their own (UNESCO, 2021; World Bank, 2019).

In summary, the integration of AI in elementary education is at a crossroads. It is a powerful force for good when used to support the teacher's creativity, but it becomes a risk when it starts to replace the student's curiosity. The success of AI in our schools will not be measured by how many tools we provide, but by how well we protect the "human element" of learning. To move forward, we must ensure that AI serves as a scaffold for the mind, not a substitute for the soul of education. We must build a future where technology supports the teacher, but the student still learns to think for themselves.

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References

- Ali, O., Murray, P.A., Momin, M, Dwivedi, Y.K. & Malik, T. (2024). The effects of artificial intelligence applications in educational settings: Challenges and strategies. *Technological Forecasting and Social Change*, 199, 123076. <https://doi.org/10.1016/j.techfore.2023.123076>.
- Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O., & Kerres, M. (2020). Facilitating student engagement through educational technology in higher education: A systematic review in the field of arts and humanities. *Journal of Computing in Higher Education*, 32(1), 2–40. <https://doi.org/10.1007/s12528-019-09223-7>

- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>
- Davar, N. F., Dewan, M. A. A., & Zhang, X. (2025). AI chatbots in education: Challenges and opportunities. *Information*, 16(3), 235. <https://doi.org/10.3390/info16030235>
- Department of Education. (2020). *Technology integration for learning continuity in the Philippines* (DepEd Order No. 012, s. 2020). <https://www.deped.gov.ph>
- Filiz, O., Kaya, M.H. & Adiguzel, T. (2025). Teachers and AI: Understanding the factors influencing AI integration in K-12 education. *Education and Information Technologies*, 30, 17931–17967. <https://doi.org/10.1007/s10639-025-13463-2>
- Goyibova, N., Muslimov, N., Sabirova, G., Kadirova, N., & Samatova, B. (2025). Differentiation approach in education: Tailoring instruction for diverse learner needs. *MethodsX*, 14, 103163. <https://doi.org/10.1016/j.mex.2025.103163>
- Luckin, R., & Holmes, W. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.
- Mercado, R. S. (2024). *Students' perception of AI integration in learning: Effectiveness, outcomes, and challenges* (Unpublished manuscript). Schools Division of Ilocos Norte.
- McCharty, A.M., Maor, D., McConney, A. & Cavanaugh, C. (2023). Digital transformation in education: Critical components for leaders of system change. *Social Sciences & Humanities Open*, 8(1), 100479. <https://doi.org/10.1016/j.ssaho.2023.100479>
- Miao, F., Holmes, W., Huang, R., & Zhang, H. (2021). *Artificial intelligence and education: Guidance for policymakers*. UNESCO. <https://doi.org/10.54675/PCSP7350>
- Ofem, U.J., Ajuluchukwu, E.N., Undie, S. (2026). A standardized framework for structured pedagogy and responsible knowledge (SPARK), built for integrating artificial intelligence into 21st-century classrooms. *Discover Education*, 5, 219. <https://doi.org/10.1007/s44217-026-01184-8>
- Roll, I., & Wylie, R. (2016). Evolution and revolution in artificial intelligence in education. *International Journal of Artificial Intelligence in Education*, 26(2), 582–599. <https://doi.org/10.1007/s40593-016-0110-3>
- Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.
- Sibug, V. B., Miranda, J. P. P., Vital, V., & Fernando, E. (2026). Teachers' perspectives on integrating AI tools in classrooms: Insights from the Philippines. *Proceedings of the 32nd International*

- Tambuskar, S. (2022). Challenges and benefits of artificial intelligence in the education sector. *Review of Artificial Intelligence in Education*, 3, e03.
<https://doi.org/10.37497/rev.artif.intell.education.v3i00.3>
- Tang Q., Kamarudin, S., Nujaimi, S. & Zhang, X. (2025). Bridging gaps in online learning: A systematic literature review on the digital divide. *Journal of Education and Learning*, 14(1), 161–176.
<https://doi.org/10.5539/jel.v14n1p161>
- UNICEF. (2022). *The state of global learning poverty: 2022 update*.
<https://www.unicef.org/reports/state-global-learning-poverty-2022>
- World Bank. (2018). *World development report 2018: Learning to realize education's promise*.
<https://doi.org/10.1596/978-1-4648-1096-1>
- World Bank. (2019). *Ending learning poverty: What will it take?*
<https://www.worldbank.org/en/topic/education/brief/ending-learning-poverty>
- World Bank. (2024). *The AI revolution in education: Brief No. 1*. <https://documents.worldbank.org>
- Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education. *International Journal of Educational Technology in Higher Education*, 16(1), 1–27. <https://doi.org/10.1186/s41239-019-0171-0>

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