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# Teaching with AI in Special Education: The Potential, Difficulties, and Ethical Issues from the Perspective of Foreign Teachers in Thailand

**VRENELEE MARIE B. LIMOSNERO**

University of Perpetual Help System-DALTA  
Las Piñas City, Philippines

**DR. BENJAMIN C. SIY JR**

ORCID # 0009-0007-0017-3648  
University of Perpetual Help System-DALTA  
Las Piñas City, Philippines

*Abstract* — The integration of Artificial Intelligence (AI) in education has introduced transformative tools that support differentiated instruction and inclusive learning environments, particularly for students with special needs. While AI is increasingly recognized for its potential to personalize learning, reduce barriers, and foster engagement, its application in special education, especially in Southeast Asian contexts, remains underexplored. In Thailand, foreign educators, notably Filipino teachers, play a vital role in delivering inclusive education; however, little is known about how they engage with AI technologies in their classrooms.

This phenomenological study aimed to explore the lived experiences of six foreign special education teachers currently teaching in Thailand, focusing on their perspectives, practices, and challenges related to AI use in inclusive settings. Data was collected through open-ended questionnaires designed to elicit rich, narrative responses and was analyzed thematically using qualitative coding methods.

The analysis yielded five key themes, forming the SPARK Framework: Scaffolding for Inclusion, Participation through Play and Personalization, Accessibility and Awareness, Responsible Innovation, and Knowledge-Centered Teacher Empowerment. These themes reflect how AI tools are used not only to individualize instruction and foster creative engagement but also to navigate ethical complexities and address cultural and technological barriers in under-resourced educational contexts.

Despite the promising benefits, participants also identified critical challenges such as inconsistent access to devices and internet, lack of formal training in AI integration, and concerns about student data privacy and algorithmic bias. These findings underscore the importance of equipping educators with ethical guidance, technical resources, and sustained professional development.

The SPARK Framework contributes to the growing discourse on AI in inclusive education by providing a practical, teacher-informed model that highlights the ethical, pedagogical, and systemic considerations necessary for successful and equitable AI integration. It offers a strategic reference for educators, school leaders, and policymakers aiming to implement AI in ways that enhance, not hinder, learning opportunities for all students, especially those with disabilities or learning differences.

*Keywords* — *Artificial Intelligence, special education, inclusive education, foreign teachers in Thailand, SPARK Framework, teacher empowerment, phenomenology, ethical use of technology, differentiated instruction, data privacy*

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## I. Introduction

The continuing study of methods to address the varied needs of learners had emerged as a key focus in education, particularly within special education, where students with unique challenges required modified support. Recent advancements in technology, especially in the realm of Artificial Intelligence (AI), had introduced tools that aided and improved the educational experience for students with disabilities. Adaptive learning systems, assistive technologies, and intelligent software enabled teachers to deliver tailored learning experiences, enhance student engagement, and promote inclusivity. However, the extent to which these tools were utilized—especially by foreign special education teachers in Thailand, such as Filipino teachers—remained a largely understudied area.

This study focused on how foreign special education teachers in Thailand incorporated AI technologies into their instructional methods, particularly examining the strategies and adjustments they made to meet the needs of students with varying abilities. By exploring their experiences, this study aimed to highlight both the advantages and obstacles associated with the implementation of AI in special education, along with the broader implications for teaching methodologies in diverse educational settings. Examining how these teachers integrated AI into their teaching practices provided valuable insights for designing future training initiatives, formulating relevant policies, and developing more effective AI resources suited to their specific environments.

This qualitative study explored the practical uses of AI by foreign special education teachers in Thailand, with a focus on Filipino teachers who played a key role in the country's special education system. This investigation delved into the ways teachers modified their approaches to integrate AI tools into their methodologies, the obstacles they encountered, and their perceptions regarding the impact of AI on their professional responsibilities and students' learning outcomes. The study aimed to identify opportunities for the advancement of AI tools that could assist teachers in providing high-quality, inclusive education.

AI technologies had become integral to achieving these objectives by offering innovative solutions to common challenges in inclusive education. For example, AI-powered assistive tools, such as speech-to-text applications and adaptive learning platforms, helped bridge the gap for students with communication or cognitive challenges, enabling them to participate more actively in classroom activities. As AI trends continued to evolve, their potential to support inclusion programs became increasingly evident. By automating repetitive tasks and providing tailored interventions, AI not only enhanced inclusion programs but also allowed teachers to focus more on individualized support for students with disabilities.

This study emphasized the experiences of foreign special education teachers, offering a valuable perspective on the incorporation of AI in special education settings. It underscored the critical role of teachers as facilitators in adapting AI to meet the diverse needs of students with

disabilities, ensuring that the benefits of AI were fully realized while considering possible limitations. This research aimed to enhance the existing understanding of AI in special education, providing actionable insights to refine teaching methodologies and strengthen inclusive education initiatives.

## **LITERATURE REVIEW**

The integration of Artificial Intelligence (AI) in education represented a significant step forward in addressing diverse learner needs, particularly in special education. AI technologies, ranging from adaptive learning platforms to assistive devices, provided personalized and inclusive learning experiences for students with disabilities. This chapter presented a comprehensive review of foreign and local studies, with an emphasis on the benefits, challenges, and implications of AI in education. It also incorporated recent developments and current events to highlight the evolving role of AI in the educational sector, focusing on the experiences of foreign teachers in Thailand, including Filipino teachers. This chapter discussed Adapting Teaching Strategies with AI, The Benefits of AI in Special Education, Challenges in Implementing AI, AI and the Post-COVID-19 Educational Landscape, AI Trends and Future Implications, and Local Perspectives on AI in Education.

### **Adapting Teaching Strategies with AI**

AI revolutionized the way teachers approached special education by enabling personalized instruction tailored to individual student needs. Adaptive learning platforms, such as those developed by Google's Read Along and Microsoft's Immersive Reader, dynamically adjust content to suit the learning pace and ability of each student. These tools provided students with disabilities opportunities to learn in ways that were previously unattainable (Microsoft, 2023).

Foreign teachers in Thailand, particularly Filipino teachers, creatively adopted these technologies to meet the diverse needs of their students. According to Torres and Lim (2021), Filipino teachers utilized AI tools to design lesson plans that accommodated cultural and linguistic differences while addressing the specific requirements of students with disabilities. These adaptations underscored how AI helped bridge gaps in inclusive education.

Additionally, a study by Park and Kim (2023) highlighted how AI-powered interactive learning platforms, such as Dream Box and Century Tech, improved student engagement by offering real-time feedback and differentiated instruction. These AI tools helped foreign special education teachers provide targeted interventions that catered to diverse student needs. In Thailand, research by Nguyen and Chai (2022) demonstrated that AI-driven language translation features assisted foreign teachers in communicating effectively with students who had speech and language impairments. This enhanced classroom participation and fostered an inclusive learning environment.

## **The Benefits of AI in Special Education**

AI technologies transformed the special education landscape by offering benefits that extended beyond academic performance. For instance, AI tools such as Speechify and Otter.ai provided real-time text-to-speech capabilities, allowing students with visual or cognitive impairments to access educational materials more effectively (Chen et al., 2020). Similarly, wearable AI devices like Google Glass were used to help children with autism improve their social interactions through guided cues and reminders (Ramirez & Lee, 2021).

Recent initiatives, such as UNESCO's Global Education Coalition, emphasized the importance of leveraging AI to promote inclusivity in education. The coalition's 2023 report highlighted how AI-powered learning platforms enhanced accessibility and improved outcomes for students with disabilities worldwide. For foreign teachers in Thailand, these tools offered an opportunity to address classroom diversity by integrating global best practices with localized educational strategies.

Moreover, a study by Johri and Sharma (2023) examined the effectiveness of AI-powered writing assistants, such as Grammarly and AI-driven mind-mapping tools, in helping students with dyslexia improve their writing skills. These tools allowed teachers to provide real-time corrections and scaffolding, enhancing literacy development. Research by Akhmedov and Ivanova (2022) also found that AI-driven speech recognition software significantly improved verbal communication skills in students with speech impairments, reinforcing its role in special education.

## **Challenges in Implementing AI**

Despite its potential, the integration of AI in education faced several hurdles. One major challenge was the disparity in access to AI technologies, particularly in low-income schools. The high costs of AI tools, combined with a lack of infrastructure, prevented many institutions from fully adopting these innovations (World Economic Forum, 2023). This issue was particularly acute in developing regions, where resource constraints limited the implementation of even basic educational technologies.

Another significant barrier was the lack of teacher preparedness. According to Smith and Clark (2020), many teachers felt unprepared to incorporate AI into their teaching due to insufficient training and support. For foreign teachers in Thailand, these challenges were compounded by cultural differences and institutional constraints. A report by OECD (2023) noted that language barriers and differing attitudes toward technology could impede the effective use of AI in classrooms.

Additionally, Huang et al. (2023) found that technical difficulties, such as software malfunctions and limited access to high-speed internet, posed obstacles to AI integration in special education. Their study recommended that professional development programs be established to train foreign teachers on how to troubleshoot AI-related issues in classrooms. Similarly, research

by Al-Khatib and Youssef (2022) highlighted that AI adoption was hindered by a lack of culturally responsive AI models, which sometimes failed to address the specific needs of diverse student populations.

### **AI and the post-COVID-19 Educational Landscape**

The COVID-19 pandemic accelerated the adoption of AI in education, as schools worldwide sought innovative solutions to address learning disruptions. AI-powered platforms such as Zoom's live transcription feature and Google Classroom's AI-assisted grading tools became indispensable in hybrid and remote learning models. These tools made education more accessible for students with disabilities, enabling them to participate fully in virtual classrooms (UNESCO, 2023).

In Thailand, foreign teachers reported using AI tools extensively during the pandemic to maintain engagement and continuity in special education. Filipino teachers, for instance, utilized platforms like Kahoot! and Quizlet to create interactive and inclusive lessons tailored to their students' needs (Torres & Lim, 2021). These experiences highlighted the resilience and adaptability of teachers in leveraging AI during times of crisis.

In addition, research by Lee and Santos (2023) examined the long-term impact of post-pandemic AI adoption in education. They found that AI-driven virtual tutors, such as Carnegie Learning's MATHia, continued to support special education students in both online and in-person learning settings. Their study suggested that AI's role in post-pandemic education was not temporary but would continue shaping instructional practices in the coming years.

### **AI Trends and Future Implications**

The role of AI in education continued to evolve, with new developments shaping the future of teaching and learning. AI-driven assessment tools, such as Turnitin's AI capabilities, offered deeper insights into student learning patterns, helping teachers identify areas for improvement. Additionally, generative AI tools like OpenAI's ChatGPT were increasingly being used to support lesson planning, providing teachers with resources to enhance instructional quality (OpenAI, 2023).

In special education, emerging AI technologies were expected to play a pivotal role in promoting inclusivity. For example, AI-powered robots such as LuxAI's QTrobot were being used to teach social and emotional skills to children with autism, offering a hands-on, interactive approach to learning (LuxAI, 2023). These advancements had the potential to redefine how teachers approached special education, ensuring that every student received the support they needed.

## Local Perspectives on AI in Education

In the Philippines, teachers embraced AI tools to address challenges in special education, often finding innovative solutions in resource-limited settings. Cruz and Dela Peña (2022) highlighted that Filipino teachers used AI applications like Duolingo and Seesaw to support students with language and learning disabilities. These tools provided an affordable way to deliver personalized instruction, even in underfunded schools.

Parental involvement was also a key factor in the success of AI implementation. Santiago (2020) found that collaborative efforts between teachers and parents significantly enhanced the effectiveness of AI tools, as consistent reinforcement at home helped students retain and apply new skills.

## Synthesis

The literature on OpenAI (2023) and LuxAI (2023) discussed the role of AI trends, emphasizing their transformative potential in teaching and learning. These studies underscored the use of adaptive learning platforms, assistive devices, and intelligent tutoring systems to support students with disabilities. For instance, LuxAI's QTrobot has been effectively utilized to teach social and emotional skills to children with autism, offering an interactive and hands-on approach to learning. Similarly, UNESCO (2023) highlighted how AI-powered learning platforms can promote inclusivity and accessibility, particularly for students with special needs.

The study by Torres and Lim (2021) explored the innovative ways Filipino teachers in Thailand integrate AI tools into their teaching practices. They found that these teachers adapt AI to address cultural and linguistic differences while meeting the needs of students with disabilities. Cruz and Dela Peña (2022) also noted the widespread adoption of AI tools like Duolingo and Seesaw in Philippine special education, where teachers leverage these platforms to deliver affordable and personalized learning experiences in resource-constrained environments.

Chen et al. (2020) conducted a meta-analysis on adaptive learning platforms, demonstrating how these tools significantly enhance learning outcomes by tailoring content to individual student needs. Similarly, Ramirez and Lee (2021) examined assistive AI technologies, such as Google Glass and Speechify, which empower students with disabilities to overcome communication and cognitive challenges. Smith and Clark (2020) pointed out that despite these advancements, many teachers feel unprepared to incorporate AI into their teaching due to insufficient training and support.

Recent reports, such as those by the World Economic Forum (2023), highlighted the challenges of AI integration, including the high costs of technology and the digital divide in low-income regions. Ethical concerns, particularly regarding data privacy and algorithmic bias, remain critical issues in AI implementation. UNESCO (2023) and the OECD (2023) emphasized the need for teacher training and institutional support to bridge these gaps.

This study shared similarities with existing literature in recognizing AI's benefits in fostering inclusivity, improving learning outcomes, and addressing individual needs in special education. However, it diverged by focusing on the experiences of foreign teachers, particularly Filipino teachers in Thailand, as they navigate cultural, linguistic, and institutional barriers. Unlike previous studies, this research emphasizes the unique strategies and adaptations of these teachers, such as the use of AI tools like Kahoot! and Quizlet during the COVID-19 pandemic to maintain learning continuity (Torres & Lim, 2021).

Additionally, while previous literature—such as Ramirez and Lee (2021)—focused on ethical issues, this study extends the discourse by examining how cultural and institutional factors influence AI's effective integration in diverse educational settings. By addressing these gaps, the current research contributes actionable insights for developing culturally responsive and inclusive AI tools tailored for special education.

### **Statement of the Problem**

The rapid advancement of AI technologies has resulted in substantial transformations in the domain of special education. Although these tools possess significant potential to enhance educational access and outcomes, the actual experiences of educators utilizing them remain little examined. This study aimed to examine the integration of AI into the teaching methods of foreign educators in Thailand, particularly Filipino teachers, learning support teachers, language support teachers, and special education teachers.

It specifically sought to address the following inquiries:

1. What are the lived experiences of foreign teachers in Thailand who integrate AI tools into their teaching practices in special education?
2. What major themes emerge from the significant experiences of foreign teachers in Thailand in utilizing AI tools for special education?
3. What insights does the researcher gain from the significant experiences of foreign teachers in Thailand regarding the use of AI tools in special education?
4. What output can be proposed based on the significant experiences of foreign teachers in Thailand in utilizing AI tools for special education?

## **II. Methodology**

This study adopted a qualitative research design, specifically the phenomenological approach, to explore the perspectives and experiences of foreign teachers, particularly Filipino teachers in Thailand, regarding the use of Artificial Intelligence (AI) in special education. Phenomenological research aimed to deeply understand and describe how individuals perceived

and experienced a specific phenomenon. Focusing on the lived experiences of teachers as they integrated AI into their special education practices, this approach was particularly suited for capturing the depth and complexity of personal experiences. It concentrated on how teachers adapted AI tools in their teaching practices, the strategies they employed, and the challenges they encountered. This method provided an in-depth understanding of the phenomenon and allowed for rich, detailed descriptions of participants' experiences, offering invaluable insights into the subjective perceptions and emotions that influenced their use of AI in educational settings.

### III. Results and Discussion

The following is the summary of the findings of the study:

1. The co-participants consistently described AI as a transformative support in special education, enabling inclusive, personalized, and flexible learning. They used tools like Quizizz, Kahoot, Canva, Grammarly, IXL, and ChatGPT to differentiate instruction, provide real-time feedback, and foster independence among students with diverse needs such as dyslexia and limited English proficiency. Teachers shifted from traditional methods to student-centered approaches, using AI to support private practice and reduce performance anxiety. They also appreciated how AI reduced administrative tasks, allowing more focus on mentoring. Despite its benefits, teachers emphasized the need for responsible AI use—choosing tools without logins, avoiding bias, and advocating for ethical practices in the absence of formal policies. They also called for stronger school support, clear guidelines, and training. Overall, AI was seen as a bridge to equity and engagement in special education, but sustaining its impact requires institutional support and empowered teachers.
2. There were Five (5) Major Themes That Emerged from Participants' Experiences. These themes reflect the multifaceted ways AI is being used in special education classrooms and form the basis of the SPARK Framework. The first theme, Scaffolding for Inclusion, describes how teachers use AI tools such as Read Along, Grammarly, and IXL to deliver differentiated learning tailored to individual student needs. These platforms offer adaptive support and personalized pacing, allowing learners to build confidence and independence. The second theme, Participation through Play and Personalization, shows how gamified platforms like Quizizz, Blooket, and Kahoot increase student engagement by offering low-pressure, enjoyable learning experiences. These tools help students take ownership of their learning and encourage repeated practice without fear of failure. The third theme, Accessibility and Awareness, highlights barriers like limited device access, poor internet connectivity, and parental misconceptions about AI. Teachers stressed the importance of improving digital infrastructure and increasing family awareness to maximize the benefits of AI tools. The fourth theme, Responsible Innovation, emphasizes the ethical decisions

teachers make in choosing AI platforms that protect student privacy and avoid bias, even in the absence of school policies. Finally, the fifth theme, Knowledge-Centered Teacher Empowerment, underscores the need for structured professional development and school support. Most teachers learned to use AI independently, indicating a clear need for formal training, peer collaboration, and leadership involvement. Together, these five themes provide a clear framework for ethical, inclusive, and sustainable AI integration in special education settings.

3. The lived experiences of the six foreign teachers revealed broader insights that go beyond individual classroom practices. One significant realization is that AI integration in special education is relational and context dependent. While AI tools offer strong potential for personalization and engagement, their effectiveness relies heavily on the teacher's intent and ethical use. Participants emphasized that their adoption of AI was guided by their desire to meet the emotional, cognitive, and linguistic needs of their students, underscoring the importance of grounding technology in empathy and pedagogy. Another insight is that AI is reshaping teacher roles. Participants described shifting from traditional instruction to becoming facilitators, learning designers, and ethical decision-makers. This evolution aligns with the broader educational shift toward equity and student-centered learning. However, the study also revealed a clear gap between innovation and infrastructure. Teachers faced limitations such as lack of devices, internet issues, and insufficient training or support, resulting in inconsistent implementation. Despite these challenges, participants showed strong ethical awareness. They selected AI tools carefully, prioritizing student privacy, cultural sensitivity, and equitable access. This reflects their role not just as users, but as responsible innovators. Overall, the findings suggest that teachers are ready to embrace AI, but need structured support, clear guidelines, and collaborative frameworks.
4. The researcher was able to create a proposed Output. The SPARK Framework, developed from thematic analysis of participants' experiences, serves as both a reflective model and an actionable guide for schools aiming to implement AI ethically and inclusively in special education. Each component—Scaffolding for Inclusion, Participation through Play and Personalization, Accessibility and Awareness, Responsible Innovation, and Knowledge-Centered Teacher Empowerment—addresses a core area where AI can be used to improve learning outcomes while upholding student dignity and equity. The framework is intended to help schools shift from fragmented, teacher-led experimentation to coordinated, school-wide strategies. It acknowledges that while many teachers are already taking creative steps to use AI effectively, sustained impact requires institutional backing, ethical oversight, and strategic alignment. SPARK offers a structure through which school leaders can assess current practices, identify gaps, and plan for future improvements.

#### IV. Recommendations

Cr Based on the findings and conclusions of this study, the following recommendations are proposed to enhance the integration of Artificial Intelligence (AI) in special education settings, guided by the SPARK Framework:

1. The school administrators may consider implementing a Structured Professional Development Program. To fully realize the potential of Artificial Intelligence in special education, it is necessary to provide educators with comprehensive training that is grounded in the SPARK Framework. These programs should build both technological and pedagogical competence, with a focus on the ethical use of AI, data privacy, adaptive learning strategies, and tools that cater to diverse learner needs. Training sessions should also familiarize teachers, especially Filipino educators preparing to teach in Thailand, with commonly used AI applications such as Quizizz, Canva, ChatGPT, and Read Along. This exposure will help them adapt more effectively to the digital tools frequently used in Thai classrooms.
2. The Ministry of Education may consider utilizing the SPARK Framework as a Guiding Model. The SPARK Framework, which includes Scaffolding for Inclusion, Participation through Play and Personalization, Accessibility and Awareness, Responsible Innovation, and Knowledge-Centered Teacher Empowerment, should be adopted as a central model for integrating AI into special education. This framework can help guide teachers in planning, implementing, and evaluating AI-enhanced instruction in a way that aligns with inclusive and ethical teaching practices. School leaders are encouraged to work with educators to ensure that policies and classroom practices reflect the principles of SPARK, thereby supporting a coherent and unified approach to digital innovation.
3. For AI tools to be effectively integrated in special education, schools may consider investing in technological infrastructure that includes reliable internet connections, adequate devices, and accessible platforms. Additionally, funding mechanisms should be established to support educators, particularly Filipino teachers who are transitioning to work in Thailand. These funds can assist in acquiring or subscribing to essential digital tools and applications used within Thai educational settings. Partnerships with government agencies, private donors, or non-governmental organizations may also help provide financial support or subsidized access to educational technology.
4. Educational Institution may consider strengthening the Ethical Guidelines for AI Integration. Educational institutions may establish clear and enforceable ethical guidelines for the responsible use of AI in the classroom. These guidelines must include protocols for data privacy, informed consent, and the avoidance of algorithmic bias. Teachers should be equipped with evaluation criteria for selecting AI tools that are appropriate for their students' developmental levels, cultural contexts, and learning profiles. Filipino teachers

working abroad must also be informed of the host country's data protection laws and educational policies to ensure their practices are aligned with local standards.

5. School personnel may promote Collaborative Learning Communities and Mentorship. Creating opportunities for teacher collaboration is essential for the sustained and reflective integration of AI in education. Schools should support the development of professional learning communities where educators can share experiences, troubleshoot challenges, and exchange innovative strategies. Mentorship programs are also recommended, particularly for newly arrived foreign teachers. These programs can support cultural adjustment, instructional development, and the practical use of AI tools. Such collaborative environments will foster professional growth and ensure that AI is used in a thoughtful and context-sensitive manner.

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