

FACING THE FUTURE: HOW NON – IT PROFICIENT TEACHERS COPE WITH AI CHATBOTS IN EDUCATION

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ABSTRACT

The rapid integration of artificial intelligence in educational environments introduced a range of AI powered applications, such as ChatGPT, that promise to enhance teaching and learning experiences. However, this technological shift poses major challenges for educators who are not proficient in information technology. This study investigated the coping strategies of non-tech-savvy teachers as they navigate the complexities introduced by AI chatbots in teaching. This study employed multi-case study design. The participants consisted of five teachers from different schools in Ilocos Sur who belonged to the so-called “techno migrants” group. Data gathered through interviews underwent thematic analysis using the cool and warm technique to discover themes and patterns on their coping strategies and their AI readiness attitudes. Distinct challenges faced by each group were also determined. The findings suggest that while some teachers are well-equipped to embrace AI chatbots, others are wary and unsure which hinders their adoption and use of these tools. Addressing these challenges requires targeted support and strategies tailored to each category. This study concludes that teachers who devote time to learning new technologies and use them are more likely to adopt new technology and find ways to integrate them in their teaching. Whereas teachers who are wary and uncertain of new technology and find little time to learn about them are less likely to adopt new technology. These findings contribute valuable insights into how teachers deal with new AI technologies and how to motivate and empower teachers to use new technologies.

KEYWORDS: AI chatbots, ChatGPT, Non-tech-savvy teachers, AI-Coping strategies of teachers

INTRODUCTION

The rapid integration of artificial intelligence (AI) in education has transformed the way teaching and learning are conducted. AI-powered tools, particularly chatbots like ChatGPT—have been increasingly adopted for tasks such as automating administrative duties, offering personalized feedback, enhancing student engagement, and supporting differentiated instruction. These developments offer promising benefits for both educators and learners.

However, this technological shift also introduces significant challenges, especially for educators who are not proficient in information technology (IT). As schools and educational institutions strive to keep pace with innovation, non-tech-savvy teachers often find themselves struggling to adapt. This study investigates how these teachers cope with the complexities brought about by AI-chatbots, focusing on the strategies they use to navigate the evolving educational landscape.

Numerous studies affirm the educational potential of AI. Holmes et al. (2019) point out that AI can enhance learning outcomes through adaptive systems that personalize instruction. Luckin et al. (2016) argue that AI allows educators to focus on high-value tasks by automating routine work. Yet, the promise of AI is not universally realized due to the digital divide, which remains a barrier to equitable technology integration.

The digital divide refers to disparities in access to and effective use of information and communication technologies (ICTs), influenced by factors such as socio-economic status, geography, and institutional support (OECD, 2022). In the Philippine context, this gap is further exacerbated by regional disparities, logistical challenges, and limited ICT infrastructure (Pouzevara et al., 2020). As a result, many educators—particularly in underserved areas—lack the resources and skills necessary to integrate AI tools effectively.

Teachers play a vital role in creating meaningful and engaging learning environments. However, not all educators are digitally prepared to use AI tools in their classrooms. Studies have shown that some teachers lack the experience to conduct data analysis, customize AI-generated assignments, or interpret AI feedback (Ally, 2019; Seo et al., 2021). Concerns also exist about AI's limitations, such as inaccurate outputs, lack of transparency, and ethical ambiguities (Akgun & Greenhow, 2021; Sijing & Lan, 2018).

Emotional and psychological responses also play a role in teachers' willingness to adopt new technologies. According to Cicero (2024), successful technology integration requires affective commitment, which includes: a positive attitude toward technology, belief in one's ability to use it, and alignment with the broader vision of innovation in education.

Wang et al. (2023) identified four key components of AI readiness among teachers: cognition, ability, vision, and ethics. Their study categorized educators into three readiness clusters and found that higher levels of AI readiness were associated with lower perceived threats, higher job satisfaction, and more innovative practices. Interestingly, the study noted no significant differences based on gender or socio-economic region, suggesting that AI readiness is more influenced by institutional and individual support structures than demographic factors.

For many educators, especially those who are less experienced with digital tools, the adoption of AI is their first encounter with such advanced technologies. Prothero (2024) identified key barriers for these teachers, including concerns about AI's societal impact, data privacy, lack of professional development, and limited institutional guidance. These issues discourage both potential adopters and current users of AI tools.

Technological anxiety—often termed “technophobia”—can further inhibit adoption. Musa et al. (2022) describe emotional responses ranging from optimism to fear when new technologies are introduced. Li and Huang (2020) categorize AI-related anxieties into several types, including learning anxiety, ethical concerns, loss of privacy, fear of job replacement, and existential threats associated with AI autonomy.

Despite these challenges, literature suggests several coping strategies for non-IT proficient educators:

Professional Development and Training: Targeted training initiatives have proven effective in building teachers' technological competence. Tondeur et al. (2017) found that workshops, peer mentoring, and access to resources helped teachers become more confident and capable in using technology.

Collaborative Learning Communities: Peer support and knowledge-sharing within professional networks ease the transition to new technologies. Vangrieken et al. (2017) emphasize that collaboration fosters innovation and mitigates resistance to change.

Self-Directed Learning and Growth Mindset: Teachers' beliefs and attitudes significantly influence their willingness to adopt technology. Ertmer and Ottenbreit-Leftwich (2010) assert that when educators perceive technology as valuable, they are more likely to invest in learning how to use it. Nonetheless, systemic barriers remain. A 2021 report by the National Education Association (NEA) highlights ongoing challenges such as inadequate infrastructure, limited technical support, and the absence of clear institutional policies. Senior teachers, in particular, may resist adopting new tools due to perceived difficulty, lack of time, or doubts about efficacy (Talvid, 2014). His study identified common reasons for resistance, including low technical competence, insufficient resources, fear of losing classroom control, and skepticism about long-term value.

Conclusion

While AI-chatbots like ChatGPT hold transformative potential in education, non-IT proficient teachers face numerous obstacles in embracing these tools. This study seeks to understand how such educators cope with the challenges of AI integration by examining their strategies, mindsets, and support systems. By shedding light on their experiences, the research aims to inform the development of inclusive training programs, supportive policies, and institutional frameworks that empower all teachers—regardless of technical skill—to thrive in an AI-enhanced educational environment. Ultimately, this study intends to provide meaningful insights for school administrators, curriculum developers, and teacher training institutions to craft responsive, relevant, and inclusive approaches to AI integration in education.

METHODOLOGY

This study aimed to explore how non-IT proficient teachers cope with the use of AI-powered chatbots such as ChatGPT in educational settings.

Research Design

A qualitative **multi-case study design** was employed for this research. A multi-case study involves selecting and analyzing two or more cases that share common characteristics but also differ in certain aspects (Mehta, 2024). This approach enables researchers to draw comparisons, identify patterns, and derive deeper insights through cross-case analysis. The multi-case study design was particularly suited to this investigation as it allowed for a detailed examination of various cases involving non-IT proficient teachers across different school contexts. By probing into their individual experiences, apprehensions, and coping mechanisms in using AI-powered tools like ChatGPT, the researchers were able to uncover the unique and shared challenges these teachers encounter. This

approach enriched the depth and breadth of understanding, ultimately strengthening the validity and transferability of the findings.

Study Site and Participant Selection

The study was conducted in multiple schools within **Ilocos Sur**, encompassing both high schools and higher education institutions. The participants were selected through **purposive sampling**, targeting teachers who were known or observed to be non-IT proficient. Special focus was given to individuals categorized as “techno-migrants,” particularly those aged between **40 to 60 years**, to ensure that the study captured the specific struggles and strategies of older educators adapting to emerging technologies.

This purposeful selection allowed the researchers to zero in on participants who were most relevant to the study objectives, those facing technological challenges and undergoing transitional experiences with AI tools.

Data Collection Procedures

The data collection process was structured into three distinct stages:

1. Pre-Data Gathering

1. Developed a preliminary profile of potential participants.
2. Designed, reviewed, and finalized as an interview guide.
3. Secured permission from school administrators.
4. Distributed informed consent forms explaining the study's purpose and participants' rights.

2. Actual Data Gathering

1. Conducted individual, face-to-face interviews at participants' respective schools.
2. Used audio and/or video recording tools with participant consent.
3. Maintained an informal interview setting to encourage openness and deeper sharing of experiences.

3. Post-Data Gathering

1. Transcribed all recorded interviews verbatim.
2. Conducted thematic analysis using Cool and Warm Analysis to identify recurring patterns, categories, and themes.
3. Synthesized insights and interpretations regarding teachers' challenges and coping strategies when using AI tools.

Ethical Considerations

The study followed rigorous ethical standards to protect participants' rights and welfare. Participation was voluntary, and informed consent was obtained from all individuals involved. Participants were informed of the study's purpose, potential benefits, and their right to withdraw at any time.

To ensure confidentiality and anonymity, no personal identifiers were used, and all data were treated with the highest level of discretion. The research process was grounded in respect, integrity, and adherence to accepted ethical practices.

Mode of Analysis

The study employed Thematic Analysis, following the six-phase framework proposed by Braun and Clarke (2006):

1. **Familiarization**
 - o Immersion in the data through repeated readings of interview transcripts.
2. **Generating Initial Codes**
 - o Systematic coding of meaningful data segments related to the research questions.
3. **Searching for Themes**
 - o Grouping codes into potential themes that reflect patterns across cases.
4. **Reviewing Themes**
 - o Refinement and validation of themes for internal coherence and representativeness.
5. **Defining and Naming Themes**
 - o Articulation of each theme's meaning, scope, and relevance to the study.
6. **Producing the Report**
 - o Compilation of findings into a structured narrative, supported by direct quotes and examples from participants.

RESULTS AND DISCUSSION

Theme: Coping Strategies of Teachers in Adapting to AI-Powered Chatbots

Understanding teachers' perspectives and attitudes towards technology is essential for successful adoption, especially in an era of rapid digital transformation in education. This study explored how non-tech-savvy teachers cope with the emergence of AI tools like ChatGPT, highlighting their strategies, concerns, and readiness levels.

The responses revealed varied reactions to the use of AI-powered chatbots. While some teachers embraced ChatGPT with enthusiasm and a proactive mindset, others displayed caution, skepticism, or hesitation. Despite these differences, a shared willingness to learn and grow was evident among all participants. Most teachers still prefer using conventional tools like Google or Google Scholar and expressed difficulty in evaluating student outputs created with the help of AI.

From the data, four subthemes emerged, representing the spectrum of attitudes and coping mechanisms: (1) The AI-Ready Teacher, (2) The AI-Adaptive Teacher, (3) The AI-Wary Teacher, and (4) The AI-Reluctant Teacher. Although the concept of an AI-Apathetic Teacher was considered, none of the participants exhibited complete indifference to AI integration.

Subtheme 1: The AI-Ready Teacher

This teacher demonstrated fluency with AI tools and confidence in integrating them into teaching. She explained:

"ChatGPT helps me be more organized in making essays and other literary stuff. It gives ideas on unfamiliar topics... With ChatGPT, work is shortcut. Of course, you cannot rely solely on it, but it helps you focus."

Notably, she also emphasized the importance of digital literacy among students:

“Since ChatGPT has a big influence on education, let’s just remind our students of its proper use and ensure that sources are reliable.”

Interpretation and Implication:

The AI-Ready teacher exemplifies a forward-thinking mindset and understands AI as both a productivity enhancer and a tool that requires critical oversight. These educators can serve as catalysts within their institutions—mentoring peers, piloting AI-driven instructional strategies, and shaping policies on responsible AI use. Their comfort with technology allows them to guide students in using AI tools ethically and effectively. This aligns with Ertmer and Ottenbreit-Leftwich (2010), who emphasized that teacher confidence and pedagogical beliefs significantly influence the integration of technology in education. Similarly, Gill et al. (2024) note that early adopters of AI like ChatGPT can shape the learning environment by modeling ethical and effective use.

Subtheme 2: The AI-Adaptive Teacher

This teacher had only recently adopted ChatGPT, encouraged by peers in graduate school:
“I usually use Google, and sometimes Google Scholar. But now, I use ChatGPT to get ideas, organize my thoughts, and find information quickly.”

She recognized the benefits but stressed the importance of responsible use:
“Ang susi ay ang paghahanap ng paraan para isama ito sa pag-aaral na nag-eencourage ng critical thinking at independent learning...”

(The key is finding ways to integrate it into learning that encourages critical thinking and independence.)

Interpretation and Implication:

AI-Adaptive teachers are in a transitional phase—receptive to innovation but needing structured guidance and peer support. They reflect the potential of professional development in increasing AI acceptance. With proper mentoring and training, these teachers can confidently implement AI tools in ways that support active learning rather than passive consumption. This finding is consistent with the study by Musa Adekunle Ayanwale et al. (2022), which found that teachers’ readiness to adopt AI is closely linked to institutional support and training opportunities. It also resonates with Ng et al. (2023), who reported that teachers develop stronger AI digital competencies through collaboration and targeted development programs.

Subtheme 3: The AI-Wary Teacher

This teacher had minimal experience with ChatGPT, using it only after a recent training session. While she saw its potential, she was not yet ready to adopt it fully:

“I think it’s important to understand how to use ICT tools properly. I need to explore ChatGPT more and understand its ethical implications before I decide.”

She expressed concern over students’ uncritical use of AI tools:
“Some students use it to get quick answers without analyzing... I don’t let them use it in class.”

Interpretation and Implication:

The AI-Wary teacher highlights the importance of digital ethics and data accuracy in AI

adoption. Her cautious stance stems from a genuine desire to protect pedagogical integrity. These educators may benefit from workshops focused on ethical use, verification of AI-generated content, and the development of lesson plans that incorporate AI while reinforcing critical thinking. This aligns with Jian Li and Huang's (2020) discussion on AI anxiety, where uncertainty about ethical use was a key barrier. It also echoes concerns in Holmes et al. (2019), who argued that the responsible use of AI in education must include ethical and pedagogical considerations.

Subtheme 4: The AI-Reluctant Teacher

This participant showed limited awareness of AI tools and admitted low IT confidence:
"Hindi ako gaanong pamilyar sa mga advanced technologies... I'd rate myself a 1 because I'm not IT efficient, but I see to it I learn from my daily work."

Despite her reservations, she recognized the importance of growth:
"I would prefer classroom activities that focus on critical thinking and not just getting quick answers from a machine."

Interpretation and Implication:

The AI-Reluctant teacher underscores a critical barrier: lack of digital confidence. These educators may perceive AI as a threat to traditional pedagogical methods or as a tool beyond their capacity. Professional development efforts must address these emotional and cognitive barriers by offering low-pressure, hands-on workshops and fostering a supportive learning community that values gradual progress. This corresponds with Hyndman (2018), who listed low confidence and fear of failure as key reasons teachers hesitate to use technology. Tallvid (2014) similarly noted that reluctance often stems from limited experience and training in pedagogical technology integration.

Teacher Type	Attitude Towards AI	Needs for Support
AI-Ready	Enthusiastic and proactive	Serve as mentors; advance digital literacy
AI-Adaptive	Open but inexperienced	Training, peer collaboration, guided integration
AI-Wary	Cautious and evaluative	Ethical discussions, tool evaluation frameworks
AI-Reluctant	Resistant and lacking confidence	Basic digital skills, motivational support

Summary and Implications

These findings highlight that while enthusiasm exists among some educators, others require a supportive environment to overcome hesitancy or fear. The study reveals a pressing need for differentiated professional development programs that take into account the varying levels of AI readiness.

To successfully integrate AI tools in education, institutions must adopt a human-centered approach—recognizing that digital transformation depends not only on tool availability but also on teacher mindset, capacity, and support. Building digital confidence, fostering collaboration, and promoting ethical AI usage are key strategies to bridge the readiness gap among educators.

CONCLUSION

The successful integration of artificial intelligence (AI) in education largely depends on the readiness and willingness of teachers. As key facilitators of learning, teachers play a vital role in preparing students not only to understand AI, but also to navigate a future where human-AI collaboration is increasingly prominent. Their openness, confidence, and competence in using AI tools such as ChatGPT directly influence the effectiveness of AI implementation in the classroom.

This study found that non-tech-savvy teachers, while initially relying on traditional tools like Google for academic information, have shown varying responses to AI chatbots. Some participants demonstrated curiosity and began experimenting with ChatGPT after exposure through peer recommendations or professional development. Others remained hesitant or resistant due to anxiety, unfamiliarity, and a perceived lack of institutional support.

To address this disparity, the study proposed four categories of teacher responses to AI—**AI-Ready**, **AI-Adaptive**, **AI-Wary**, and **AI-Reluctant**. These classifications provide a useful framework for understanding the diverse attitudes and coping strategies of teachers when faced with emerging technologies. More importantly, they highlight the need for differentiated, targeted support and professional development programs that respond to each group's specific concerns and capabilities.

In conclusion, empowering teachers to embrace AI technologies is not just a matter of access, but of mindset, training, and institutional backing. Supporting educators through tailored strategies and ongoing guidance will be essential to fostering their confidence and equipping them to prepare students for a future shaped by human-AI collaboration.

RECOMMENDATIONS

The findings of this study emphasize the importance of designing targeted support systems that align with the varying levels of AI-readiness among teachers. To promote effective and inclusive AI integration in education, the following recommendations are proposed:

1 Tailored Professional Development and Training Programs

1.2 **Differentiated Learning Tracks:** Develop training programs based on teachers' AI-readiness levels.

1.2.1 *AI-Ready* and *AI-Adaptive* teachers can benefit from advanced workshops on integrating AI for higher-order tasks like assessment design, differentiated instruction, or AI-supported research.

1.2.2 *AI-Wary* and *AI-Reluctant* teachers should be offered beginner-friendly sessions that focus on building confidence, addressing misconceptions, and demonstrating basic, practical classroom applications of AI chatbots.

1.3 **Sustained Mentorship:** Pair less tech-savvy teachers with more experienced mentors who can provide guidance, modeling, and reassurance through regular check-ins and co-teaching opportunities.

2 Establishment of Collaborative Learning Communities

2.2 Peer-Led Support Networks: Facilitate communities of practice where teachers can openly share their experiences, challenges, and success stories using AI chatbots. This peer interaction fosters a sense of community and helps normalize the learning process.

2.3 Interdisciplinary Collaboration: Encourage collaboration across subject areas by forming support teams that include educators with varying degrees of tech proficiency, allowing for cross-pollination of ideas and mutual learning.

3 Use of Evidence-Based and Reflective Practices

3.2 Pilot Initiatives: Launch pilot projects that allow teachers to experiment with AI chatbot integration on a small scale. Gathering and showcasing positive outcomes can help ease the skepticism of *AI-Wary* and *AI-Reluctant* teachers.

3.3 Ongoing Evaluation: Implement mechanisms to regularly assess the impact of AI tools on student engagement and learning outcomes. These insights can guide iterative improvements to both pedagogy and training programs.

4 Improvement of Technical Infrastructure and Support

4.2 Access to Technology: Ensure schools are equipped with adequate hardware, stable internet connectivity, and updated software that supports the smooth operation of AI tools like ChatGPT.

4.3 Dedicated Technical Assistance: Offer accessible tech support that can quickly address teachers' operational concerns, reduce frustration and minimizing resistance due to technical difficulties.

5 Cultivating a Positive and Purposeful Tech Mindset

5.2 Promoting Growth-Oriented Attitudes: Encourage teachers to see AI integration not as a threat to traditional teaching but as an opportunity to enhance instruction and develop new professional competencies.

5.3 Connecting AI Use to Instructional Goals: Emphasize the practical value of AI chatbots by aligning their use with classroom challenges—such as reducing workload, organizing content, or facilitating inquiry-based learning—making the benefits more tangible for hesitant educators.

By implementing these targeted strategies, educational institutions can create a supportive and responsive environment that empowers all teachers—regardless of their tech proficiency—to gradually and confidently incorporate AI chatbots into their teaching. Ultimately, this supports both teacher growth and student readiness for a future shaped by human-AI collaboration.

LIMITATIONS

While this study offers valuable insights into the coping mechanisms of non-IT proficient teachers in relation to the use of AI chatbots, several limitations must be acknowledged. Firstly, the small sample size and the focus on a specific group of teachers may limit the generalizability of the findings. Despite this, the study sheds light on the varying attitudes and reactions of teachers towards AI technologies, contributing meaningful awareness to this emerging area.

Future studies would benefit from using a larger and more diverse sample, as well as incorporating additional data collection methods such as classroom observations or focus group discussions to triangulate findings and enrich the analysis. Exploring the potential negative impacts of chatbot usage is also recommended to identify specific challenges and inform the development of more effective, user-centered AI tools for education.

Moreover, while the research successfully met its objectives, it also raised new questions—particularly regarding how students perceive their teachers’ competence in using AI technologies. Investigating this perspective may offer a more holistic understanding of AI integration in the classroom.

Future research should also explore variations in teachers’ responses based on subject specialization and academic level. Comparative studies between teachers from different disciplines and grade levels could uncover nuanced differences in how AI tools are perceived and utilized, thereby informing more tailored and effective support mechanisms.

Finally, it is important to note that educational technology, particularly AI chatbot integration, remains a rapidly evolving field. Its implementation in education—especially in higher education—continues to develop, and as such, more comprehensive and longitudinal research is needed to fully understand its implications, benefits, and limitations.

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