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EXPLORING THE EXPERIENCES OF INSIDERS IN INTEGRATING INSTRUCTIONAL TECHNOLOGY INTO PUBLIC EDUCATION

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Abstract:
This phenomenological research explored the experiences encountered by the insiders, five (5) teachers, who were actively integrating technology in their teaching practices at Alegria Central Elementary School. The research used a qualitative approach and utilized in-depth interviews in data collection. Purposive sampling was also employed, where participants were intentionally selected. The study identified three overarching themes— experiences, coping mechanisms, and insights— were formulated to capture the experiences of teachers from integrating technology in public education. This explores the experiences of public elementary teachers in integrating instructional technology, categorizing their encounters into maximizing engagement amid implementation barriers, resilience in the face of technological limitations and balancing technology with classroom focus. To cope, teachers employed proactive adaptation and continuous growth in technology integration, personalized and multi-sensory learning through technology integration, thoughtful and mindful technology integration and collaborative problem-solving and professional growth. Reflecting on the experiences of teachers in integrating instructional technology revealed insightful emergent themes. This encompassed leveraging technology to enhance efficiency, engagement, and teaching effectiveness, promoting a collaborative culture of technology adoption, building confidence and optimism for a future-ready, technology-enhanced education and a balanced and adaptive approach to technology integration.

Keywords: educational management, insiders, instructional technology, public education, teachers, phenomenology, Philippines

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1. Introduction

"*On Monday morning, as the teacher prepared for her lesson, she noticed a familiar scene: several students were clustered around a single tablet, quietly negotiating whose turn it would be next, while others waited disengaged*." When the teacher asked why they were not using the classroom computers, a colleague shrugged and replied, "*The internet is too slow, and half the computers will not even turn on*." Later that week, many teachers left a scheduled professional development session on digital learning with more questions than answers. The training covered basic functions but did little to address their challenges: unreliable infrastructure, limited access, and uncertainty about meaningfully integrating technology into their daily teaching.

This experience is not unique to any classroom. Globally, the potential of technology in education is hindered by ongoing barriers that prevent teachers and students from fully benefiting. One recent UNESCO report notes, "*Access to technology alone does not guarantee improved learning outcomes. Effective integration depends on teacher support, relevant training, and equitable infrastructure*" (UNESCO, 2023, p. 42). The core issue is not just about having devices in schools; it is about ensuring that all teachers have the skills, confidence, and support to use technology for meaningful learning.

The digital divide remains a significant obstacle to educational equity. While some schools have the latest devices and high-speed Internet, others struggle with outdated equipment, unreliable connectivity, or a complete lack of digital resources. According to the 2023 UNESCO Global Education Monitoring Report, "*Nearly one-third of students globally lack access to the internet at home, and the gap is even wider in rural and marginalized communities*" (UNESCO, 2023). In the Philippines, a report found that only 55% of public schools had reliable internet access, and fewer than half had sufficient student devices (DepEd-ICTS, 2022). This imbalance means that students from disadvantaged backgrounds risk falling further behind, not because of their abilities but because of their limited access to digital tools.

Effective integration is far from guaranteed, even in schools where devices are available. Recent research highlights that insufficient professional development tailored to teachers' real needs is among the most frequently cited barriers. Many training programs remain generic or too technical, failing to address the practical realities of classroom teaching (Chigona et al., 2023; UNESCO, 2023).

Infrastructure challenges exacerbate difficulties in technology integration. Outdated equipment, unreliable power supply, and insufficient technical support hinder teachers' ability to incorporate technology into their teaching practices consistently. According to the EdTech Evidence Exchange (2022), infrastructure deficiencies such as unstable internet connections and a shortage of devices remain significant obstacles to effective technology use, particularly in low- and middle-income countries. Consequently, educators often spend valuable instructional time troubleshooting technical problems instead of focusing on student learning (EdTech Evidence Exchange, 2022, p. 15). Additionally, teacher self-efficacy and attitudes toward technology are

critical factors. While many educators acknowledge the benefits of digital tools, a lack of confidence and limited digital skills can impede their willingness to experiment and innovate (Asrofi, 2023).

Locally, at Alegria Central Elementary School, few teachers can access the Internet and use technology in their daily learning process. Teachers who struggle with computers typically say, "*I am not particularly tech literate*." Some teachers struggle to navigate the digital world, whether adding a document to an email or making a PowerPoint presentation. The instructors often use new technologies they do not understand, which may lead to feelings of dissatisfaction and isolation as schools worldwide begin integrating technology into their learning environments.

As teachers, we are enthusiastic about the potential of instructional technology to transform how students learn and interact with their education. We acknowledge that technology has the potential to introduce new and exciting methods to individualize instruction, encourage collaboration, and improve assessment and evaluation. While technology holds transformative potential for education, its benefits are not automatically realized by simply placing devices in classrooms. Overcoming barriers such as the digital divide, insufficient professional development, infrastructure gaps, and teacher self-efficacy requires coordinated efforts and sustained investment. Equipping teachers with the necessary resources, training, and support is essential to ensure that all students, regardless of background, can access high-quality, technology-enhanced learning experiences. Lessons today are not learned in the same way that a teacher taught them in the past because students think and learn fundamentally differently than their predecessors did. Modifying teaching delivery may be the most intense adaptation strategy for some learners. Identifying the strengths and weaknesses of teachers in incorporating technology into the curricula is critical for the urgent need to bring out quality in education and an effective teaching-learning process.

2. Material and Methods

This study focused on five insiders from Alegria Central Elementary School. I conducted in-depth interviews with them to explore their experiences with instructional technology integration. The decision to include five participants was deliberate and based on qualitative research principles that emphasized depth over breadth; this sample size was sufficient to achieve data saturation and provide rich, nuanced insights into the challenges and successes of technology used in this specific educational context (Guest et al., 2006). Alegria Central Elementary School is situated in a rural area of Barangay Alegria, Municipality of Alabel Sarangani Province, serving 846 students across kinder, grades one to six and with a teaching staff of 28 educators. The school has recently embarked on digital transformation initiatives, including the introduction of tablets and efforts to improve internet connectivity. However, technology integration remains limited due to infrastructural constraints and varying levels of teacher readiness, making

it an ideal setting to study the real-world complexities of adopting instructional technology in resource-constrained environments.

Purposive sampling was employed to select participants who could provide the most relevant and insightful information regarding the study's objectives. Specifically, teachers were chosen because they have actively participated in the school's digital transformation efforts and have demonstrated experience integrating digital tools into their teaching practices. This context-specific approach to sampling ensured that the data collected would be rich and directly applicable to understanding the phenomenon of instructional technology integration within a rural public-school setting (Campbell et al., 2020). The identification and recruitment of participants were facilitated through collaboration with the school principal, who provided a list of teachers meeting the inclusion criteria and who had expressed openness to participate in the study. Invitations were extended via letter to clarify the study's purpose and confirm voluntary participation.

The inclusion criteria required that participants be employed as Alegria Central Elementary School teachers with at least one year of teaching experience. They needed to use digital tools or instructional technology in their classrooms actively and have a basic understanding of educational technology applications. Furthermore, participants had to be willing to share their experiences through interviews or surveys. Teachers who did not meet these criteria, including those with less than one year of experience, those not actively using technology, individuals unwilling to participate, or those lacking foundational knowledge of educational technology, were excluded. Additionally, teachers from private schools or non-formal educational settings were excluded to maintain the study's focus on public education and to ensure comparability within the sample.

Interviews were conducted in person within a private room at Alegria Central Elementary School to provide a confidential and comfortable environment conducive to open dialogue. Each session lasted approximately 45 to 60 minutes and was conducted in the participants' preferred language, primarily Filipino and English, to facilitate clear and natural communication. The semi-structured interview format allowed participants to elaborate on their experiences, challenges, and perceptions of integrating instructional technology, enabling the researcher to probe deeper into emerging themes. Prior to each interview, participants were fully informed about the study's objectives, the voluntary nature of their participation, and their right to withdraw at any point without any repercussions. They were assured of confidentiality and that their responses would be used solely for research. This ethical approach ensured that participants felt respected and comfortable throughout the data collection process.

2.1 Design and Procedure

Permission to conduct this study was formally secured through a written request to the principal of Alegria Central Elementary School. After receiving approval from the principal, additional authorization was obtained from the Division Office to ensure

compliance with local educational policies. Doctor Noe P. Garcia granted ethical clearance, reviewing the study protocol to safeguard the rights and welfare of all participants. These steps ensured the research was conducted with full institutional support and adhered to established ethical standards.

The research unit focused on public elementary school teachers because their firsthand experiences with instructional technology integration provide critical insights into the practical realities and challenges of digital transformation in education. Public school teachers often operate within resource-constrained environments and serve diverse student populations, making their perspectives uniquely valuable for informing policies and practices for equitable technology adoption. Their narratives reveal systemic barriers and practical strategies, offering a comprehensive understanding of technology's role in contemporary classrooms.

Purposive sampling was employed to select participants who could provide rich, detailed information relevant to the study's objectives. This method was appropriate because it allowed for the intentional inclusion of teachers actively integrating technology into their teaching practices. The sample consisted of five teachers from Alegria Central Elementary School, a size justified by the principle of data saturation commonly accepted in qualitative research. Saturation was reached when additional interviews no longer yielded new themes or insights, ensuring that the sample sufficiently captured the depth and variability of experiences within this context.

Data were collected primarily through in-depth, semi-structured interviews guided by an interview protocol explicitly developed for this study. Triangulation strategies were employed to enrich the data and enhance credibility. Field notes were taken during each interview to capture non-verbal cues and contextual details that complemented the audio recordings. Additionally, a reflective journal was maintained throughout the research process to document methodological decisions, personal reflections, and emerging analytic insights. Member checking was conducted by providing participants with verbatim transcripts and preliminary thematic summaries for their review and feedback, which helped validate the accuracy and authenticity of the findings. Furthermore, theoretical triangulation was applied by interpreting the data through constructivist and transformational learning theories, offering multiple lenses to deepen understanding of teachers' experience and enact technology integration.

Prior to each interview, informed consent was obtained from all participants, including permission to audio-record the sessions to ensure data accuracy. Interviews were conducted in private, comfortable settings chosen by the respondents, such as their homes, offices, or a reserved room at the school, fostering a secure environment for open and honest dialogue. Each interview lasted approximately 45 to 60 minutes and was conducted in Filipino or English according to participant preference. Rapport was intentionally established to build trust and encourage candid sharing of experiences. Throughout the interviews, strict ethical standards were observed to protect participants' confidentiality and well-being. Pseudonyms were used in all transcripts and reports to maintain anonymity. Participants were reminded of their right to withdraw from the

study without penalty. Care was taken to avoid any questions or discussions that might cause psychological distress. Transparency about the research objectives and procedures was always maintained, and covert recording devices were never used.

The collected audio recordings were transcribed verbatim and reviewed multiple times to ensure accuracy. The analysis followed a rigorous qualitative approach, capturing the meanings embedded in participants' narratives. Throughout the process, I remained mindful of my role as a researcher, striving to bracket personal biases and interpretations to represent the participants' voices faithfully. The combination of systematic data collection, ethical rigor, and methodological triangulation contributed to the trustworthiness and depth of the study's findings.

3. Results and Discussion

This part presents the categorization of data of the insiders' experiences in integrating instructional technology into public education. Specifically, to describe their challenges, coping mechanisms and their lessons learned in integrating instructional technology.

Table 1. *The Challenges of the Insiders in Integrating Instructional Technology into Public Education*

Clustered Themes	Emergent Themes
Students being distracted and focusing more on entertainment than learning Potential for technical issues disrupting the lesson Students' retention is low	**Maximizing Engagement Amid Implementation Barriers**
Power outages Inadequate departmental resources Difficulty providing printed materials No internet connection	**Resilience in the face of technological limitations**
Challenges related to proper use of technological tools Particularly challenging when urgent reports need to be submitted The need for backup plans during electricity shortages	**Balancing Technology with Classroom Focus**

Based on the data presented in Table 1: The Challenges of the Insiders in Integrating Instructional Technology into Public Education, three major emergent themes surfaced: Maximizing Engagement Amid Implementation Barriers, Resilience in the Face of Technological Limitations, and Balancing Technology with Classroom Focus. These themes illustrate both the opportunities and difficulties educators face when integrating technology into public education.

Maximizing Engagement Amid Implementation Barriers captures the overwhelmingly positive experiences that educators shared regarding how technology enhances student engagement. Participants noted that incorporating technology led to increased enthusiasm, attentiveness, and student participation during lessons. Learners

were reportedly more excited to interact with multimedia content, contributing to a more vibrant and productive classroom environment. Teachers also recognized that technology helped them create a more conducive learning environment by boosting student motivation and improving class dynamics. These findings are consistent with research showing that technology increases student interest and enjoyment in the learning process, creating more dynamic and interactive classrooms (Alqurashi, 2019).

Moreover, technology's value went beyond student engagement; it also enabled more personalized and differentiated learning experiences. With digital tools, educators could adjust instruction to fit various learning styles and abilities. Adaptive learning platforms provided customized content and immediate feedback, allowing students to work at their own pace and deepen their understanding. Collaborative tools such as shared documents and online discussions promoted peer learning and fostered classroom community. These experiences align with findings by Lai and Bower (2019), who emphasized how technology can support both individual and group-based learning while enhancing retention and student confidence.

The theme of Resilience in the Face of Technological Limitations reflects the adaptability and persistence of educators when facing infrastructure-related and technical challenges. Participants experienced frequent power outages, limited departmental resources, poor internet connectivity, and a lack of printed materials. Despite these setbacks, they demonstrated remarkable flexibility and innovation, using available resources to maintain teaching continuity. This mirrors the concept of *e-resilience*—the ability to withstand and recover from technological disruptions—which Laar et al. (2019) identify as essential for educators operating in resource-constrained environments. During the COVID-19 pandemic, this resilience became especially apparent as teachers overcame the sudden transition to remote learning despite minimal preparation and infrastructure (Laar et al., 2017).

Another critical aspect of resilience is psychological readiness. Educators often grapple with technostress, a lack of confidence in troubleshooting, or fears of losing control of their classrooms. However, Van (2023) stresses that vocational commitment and supportive environments can help teachers overcome these barriers. Collaborative training programs during the pandemic empowered educators to develop new competencies and regain confidence in technology integration. As van Laar et al. (2019) suggest, teachers thrive when professional development opportunities are paired with encouragement to experiment and learn from mistakes.

To further enhance resilience, systemic issues must be addressed. Habibi (2023) emphasizes the need for equitable access to resources and ongoing professional development to ensure technology integration does not worsen educational disparities. Investing in infrastructure, providing devices and connectivity, and reducing technostress through mentorship and training are critical for building a culture of resilience in schools. When schools prioritize equity and teacher support, they not only help educators adapt to change but also improve overall teaching effectiveness and student outcomes.

Finally, Balancing Technology with Classroom Focus highlights the educators' effort to harmonize the benefits of technology with its potential drawbacks. Teachers reported that technology sometimes distracted students, created dependency on electricity, and was difficult to rely on due to unstable internet and limited departmental support. These challenges compelled educators to be more resourceful—spending personal funds, preparing extensively, and carefully curating digital content to ensure relevance and focus. These findings align with earlier studies showing that poor infrastructure and lack of teacher training hinder effective technology use, and that students can be easily distracted when technology is not purposefully integrated (Teo, 2018; Lin et al., 2020).

Supporting this, Adeniran and Ogunlela (2019) also found that educators face multiple obstacles in integrating technology effectively, including inadequate hardware, unreliable connectivity, and minimal technical support. Participants in this study echoed these concerns, underscoring that effective technology use requires not just access to tools but also strong pedagogical strategies, ongoing training, and institutional backing. Balancing innovation with classroom control remains a critical task for teachers navigating the digital age.

In conclusion, while technology presents immense potential to improve student engagement, personalize learning, and foster collaboration, its successful integration hinges on the resilience and preparedness of educators. Teachers' ability to adapt, coupled with systemic support and ongoing training, ensures that technological tools enhance rather than hinder the learning experience. By addressing barriers and aligning technology use with pedagogical goals, schools can create more equitable, effective, and future-ready learning environments.

Based on the data in Table 2: The Coping Mechanisms of the Insiders in Integrating Instructional Technology in Public Education, the following discussion explores four key emergent themes: Proactive Adaptation and Continuous Growth in Technology Integration, Personalized and Multi-Sensory Learning Through Technology Integration, Thoughtful and Mindful Technology Integration, and Collaborative Problem-Solving and Professional Growth. These themes showcase the strategic approaches educators adopt to effectively navigate the integration of instructional technology within public education.

The first emergent theme, Proactive Adaptation and Continuous Growth in Technology Integration, illustrates how teachers adopt a forward-thinking and student-centered mindset. Participants emphasized the importance of preparing lessons in advance, maintaining a clear and positive attitude, and being creative and resourceful in lesson delivery. They also highlighted the need to understand and address students' needs, which helped ensure effective engagement. These proactive behaviors align with Ntuli and Khumalo (2021), who found that preparation, ongoing learning, and seeking help are essential coping strategies for teachers. The emphasis on continuous professional growth echoes the lifelong learning mindset promoted in the digital age, where educators must constantly upgrade their skills to stay relevant (Prestridge et al., 2019).

Table 2. *The Coping Mechanisms of the Insiders in Integrating Instructional Technology In Public Education*

Clustered Themes	Emergent Themes
Preparing lessons in advance and being well-prepared. Staying proactive, positive, and maintaining a clear mindset. Understanding and addressing students' needs to engage them effectively Being creative and resourceful in lesson delivery Emphasizing continuous learning and self-improvement Using technology to provide relevant and useful learning materials.	**Proactive Adaptation and Continuous Growth in Technology Integration**
Enhancing engagement and understanding through multimedia that appeals to multiple senses. Tailoring technology tools to students' individual learning needs. Recognizing the limitations and potential negative effects of technology	**Personalized and Multi-Sensory Learning Through Technology Integration**
Using technology selectively and thoughtfully to maximize benefits. Carefully choosing content that aligns with teaching topics and is suitable for students. Focusing on maintaining a positive and clear mindset when dealing with technology challenges.	**Thoughtful and Mindful Technology Integration**
Engaging in research and problem-solving to overcome challenges Collaborating and seeking assistance from colleagues Participating in professional development opportunities like seminars and workshops Maintaining composure and remaining calm while addressing difficulties	**Collaborative Problem-Solving and Professional Growth**

Supporting this, Napitupulu et al. (2024) stress the importance of collaboration and participation in communities of practice, which further reinforces growth through shared experiences. This theme underscores a crucial point: resilience and success in technology integration depend on educators' adaptability and commitment to evolving their practices. Through collaboration, professional learning, and preparation, educators build confidence and teaching efficacy in technology-rich environments.

The second theme, Personalized and Multi-Sensory Learning Through Technology Integration, centers on how teachers leverage educational technology to cater to diverse learners. Participants shared that using multimedia tools helped enhance student engagement and understanding, appealing to various sensory modalities. Technology enabled differentiated instruction by allowing teachers to tailor content to individual learning needs, thus fostering inclusive and meaningful learning experiences. Wang and Reeves (2018) and Alzahrani (2019) support these findings, emphasizing the role of educational technology in promoting active, collaborative, and personalized learning environments that improve student motivation and outcomes.

Additionally, the use of assistive technologies, such as speech-to-text tools and adaptive learning platforms, empowers students with diverse needs, promoting equity in education. These technologies not only boost academic achievement but also foster student autonomy and confidence. When technology is thoughtfully implemented to

address individual differences, it becomes a powerful tool for transforming traditional teaching into a more inclusive and impactful practice.

The third emergent theme, Thoughtful and Mindful Technology Integration, reveals educators' awareness of both the potential and the pitfalls of technology. Participants were deliberate in selecting content that aligned with their teaching goals and avoided unnecessary distractions. They emphasized using technology only when it contributed positively to student learning. Maintaining a clear and optimistic mindset was also seen as critical in navigating technological challenges. These reflections align with Hwang and Lee (2020) and Lee et al. (2021), who discuss how overuse or inappropriate use of technology can reduce attention spans and motivation.

Furthermore, this mindful approach is grounded in pedagogical awareness. As Ertmer et al. (2019) and Shroff et al. (2018) suggest, the success of technology integration hinges more on the teacher's pedagogical content knowledge than on the tools themselves. Educators who understand when and how to use technology effectively are better positioned to support student learning while minimizing potential downsides. This theme emphasizes that the key to effective integration lies in intentionality and reflection.

The final theme, Collaborative Problem-Solving and Professional Growth, highlights how educators cope with challenges through research, collaboration, and continuous learning. When faced with difficulties, teachers engaged in self-directed learning, sought assistance from colleagues, and attended seminars or workshops. They remained composed and solution-oriented, ensuring that student needs remained the priority. These findings are echoed in the work of Sari (2018), Hwang et al. (2018), and Lin & Chen (2019), who found that professional collaboration and seeking support are among the most effective ways to overcome barriers in technology integration.

Participants also mentioned using online resources, such as YouTube, for professional development—an approach supported by Karami and Khodabandelou (2019), who emphasized the value of video tutorials and digital platforms in supporting teachers' ongoing learning. This theme reinforces the idea that successful integration of technology is not a solitary endeavor but a collaborative process fueled by curiosity, shared knowledge, and a supportive professional community.

In conclusion, the coping mechanisms identified in Table 2 reveal a resilient, resourceful, and reflective teaching force. These educators not only adapt to the challenges of instructional technology but also grow through them, enhancing both their practice and student learning. By embracing preparation, personalization, mindfulness, and collaboration, they demonstrate a comprehensive and sustainable approach to navigating the digital shift in public education.

Table 3. *The Lessons Learned of the Insiders in Integrating Instructional Technology into Public Education*

Clustered Themes	Emergent Themes
Advantages of using computers and electronic devices in the classroom. Enhancing student engagement and attention. Making teaching and learning more efficient. Providing easy access to resources. Time-saving aspects. Supporting interaction and learning. Encouraging inner competence and effective teaching.	**Leveraging Technology to Enhance Efficiency, Engagement, and Teaching Effectiveness**
Strategies for motivating co-teachers to use technology. Sharing personal positive experiences. Emphasizing the benefits of technology, especially in reducing workload. Giving positive inputs on the daily benefits of technology.	**Promoting a Collaborative Culture of Technology Adoption**
Participants' Building Confidence in Sustainable Technology Use in education. Optimism regarding educational institutions upgrading technology. Preparing students for a high-tech world. The role of technology in providing quality education.	**Building Confidence and Optimism for a Future-Ready, Technology-Enhanced Education**
Lessons learned from integrating technology into teaching. Not relying solely on technology. The importance of teacher adaptability and flexibility. Recognizing both the advantages and limitations of technology. Staying positive, motivated, and continually learning.	**Balanced and Adaptive Approach to Technology Integration**

Based on Table 3: The Lessons Learned of the Insiders in Integrating Instructional Technology into Public Education, the following is a comprehensive discussion of the emergent themes: Leveraging Technology to Enhance Efficiency, Engagement, and Teaching Effectiveness, Promoting a Collaborative Culture of Technology Adoption, Building Confidence and Optimism for a Future-Ready, Technology-Enhanced Education, and Balanced and Adaptive Approach to Technology Integration. Each theme provides insight into how educators reflect on their experiences and the meaningful transformations brought about by instructional technology.

Leveraging Technology to Enhance Efficiency, Engagement, and Teaching Effectiveness highlights the multifaceted benefits that educators gained from integrating technology. Participants observed that digital tools significantly enhanced student engagement, making the teaching and learning process more interactive and efficient. The accessibility of diverse resources at the click of a button allowed for the enrichment of lesson content and greater flexibility in instructional strategies. Teachers also noted that these tools saved time and supported interaction, making learning more accessible and enjoyable for both themselves and their students. These observations resonate with the findings of Rizvi and Shaikh (2018) and Dabbagh & Kitsantas (2018), who

underscored the ability of technology to foster greater engagement and effectiveness in education.

Furthermore, the incorporation of digital tools promoted self-efficacy among educators. Many reported feelings more competent in their roles as facilitators of learning, and they encouraged their colleagues to adopt a similar mindset of continuous improvement. This aligns with Crompton's (2019) emphasis on technology as a means not only to streamline teaching practices but also to inspire professional growth and innovation in the classroom.

The theme Promoting a Collaborative Culture of Technology Adoption reveals how participants not only embraced technology themselves but also served as advocates among their peers. Educators took on the responsibility of sharing their positive experiences, especially through Learning Action Cells (LACs), to support professional development within their schools. These efforts helped create a shared understanding of the benefits of technology and encouraged less tech-savvy teachers to overcome their hesitation. The participants' narratives reflect a strong commitment to community-building and mentorship, consistent with Lachner et al. (2024), who emphasized peer coaching and shared success stories as effective motivators in promoting technology use. Such strategies are critical in public school settings, where resistance to change or a lack of confidence may hinder widespread technology adoption. By fostering a positive and collaborative learning culture, educators not only accelerated their professional development but also ensured that the benefits of instructional technology extended to the broader school community.

Building Confidence and Optimism for a Future-Ready, Technology-Enhanced Education captures the participants' forward-looking mindset. Educators expressed confidence in the ability of educational institutions to enhance classroom technology within the coming years. This optimism was fueled by the Department of Education's efforts to improve resource provision, including digital devices and infrastructure, and the increasing role of technology in daily life. Participants viewed this transition not as a temporary trend but as a long-term shift essential for preparing students for a high-tech, global workforce.

Their insights reflect the findings of Barseghian (2018) and Puentedura (2019), who advocate for equipping students with 21st-century skills through effective technology integration. Furthermore, the participants' hope for continuous investment in educational technology demonstrates their belief in its power to improve teaching outcomes and educational equity. This theme underscores the critical link between policy-level support, infrastructure improvement, and teacher confidence in sustaining digital innovation in education.

In the theme Balanced and Adaptive Approach to Technology Integration, participants reflect deeply on the importance of maintaining a balanced teaching strategy. While they acknowledged the value of technology in capturing attention and enhancing learning, they also stressed that technology should not replace traditional teaching methods but rather complement them. Teachers recognized the need to adapt and be

flexible, especially in navigating technical limitations and varied student needs. Their willingness to acknowledge the limitations of technology is a strong indicator of professional maturity and pedagogical awareness.

Hwang & Lee (2020) emphasize the importance of flexibility and self-reflection in adapting to evolving educational tools. Similarly, Shroff et al. (2018) and Ramanathan et al. (2018) discuss how a balanced approach, coupled with continuous learning, can mitigate overreliance on digital tools and support effective classroom management. The participants' insights underscore that adaptability—paired with critical evaluation—is key to successful and sustainable technology integration.

Taken together, the lessons learned by insiders illustrate a growing culture of informed, collaborative, and optimistic technology adoption in public education. Their experiences reflect a nuanced understanding of how digital tools can both enhance and challenge teaching and learning. By leveraging technology wisely, collaborating with colleagues, and maintaining a growth-oriented mindset, educators are not only improving their practices but also laying the groundwork for a more future-ready educational system.

Overall, the integration of instructional technology is no longer seen as an optional enhancement but a necessary evolution. As participants navigate this transformation, they exemplify what it means to be lifelong learners and adaptable professionals—qualities that will be increasingly essential in a rapidly changing educational landscape.

4. Implication for Practice and Future Research

Based on the experiences of the five insiders in this study, several key implications for educational practice emerge, particularly in integrating instructional technology into public education.

Maximizing engagement amid implementation barriers requires a strategic and proactive approach that directly addresses resource limitations, teacher training deficiencies, and resistance to change. Schools must prioritize robust professional development programs that equip educators with the confidence, creativity, and hands-on experience necessary to integrate digital tools effectively. These training initiatives should aim to reduce technostress, encourage innovation, and promote engaging learning methods that resonate with students.

Building resilience in the face of technological limitations further involves fostering adaptability and digital resilience through continuous training and institutional support. Educators benefit from developing practical skills and mindset shifts that help them navigate disruptions confidently, while schools must implement contingency planning, encourage collaboration, and embed resilience into their long-term strategies to ensure uninterrupted teaching and learning.

Addressing the challenges of balancing technology with classroom focus involves acknowledging both the positive and negative experiences educators face. Ongoing support, adequate training, and sufficient resources are vital to overcoming these

obstacles and ensuring technology's benefits are fully realized. In this context, proactive adaptation and continuous growth in technology integration are essential. Educators must embrace technology as a tool for innovation and empowerment rather than a barrier, using it to improve engagement, personalize learning, and enhance educational outcomes.

Personalized and multi-sensory learning through technology integration suggests that digital tools should align with the diverse needs of students, leveraging multimedia content and offering individualized choices that cater to different learning preferences. Ongoing professional development is crucial to keeping educators updated on technological advancements and pedagogical strategies, enabling the creation of a dynamic and inclusive learning environment.

Thoughtful and mindful technology integration underscores the need for adequate training and support to help educators effectively use instructional technology. Teachers should actively seek out learning opportunities to build their digital proficiency and understand when and how to use technology purposefully.

Collaborative problem-solving and professional growth further suggest that coping with integration challenges requires openness to experimentation, adaptability, and support from colleagues and school leaders. By working together and sharing a common vision, educators can turn implementation hurdles into opportunities for professional and instructional advancement.

Leveraging technology to enhance efficiency, engagement, and teaching effectiveness reveals that digital tools go beyond boosting learning outcomes—they also facilitate classroom management, support individualized instruction, and foster a more stimulating educational experience.

Promoting a collaborative culture of technology adoption highlights the importance of mentorship, sharing best practices, and encouraging colleagues to embrace digital teaching methods. Building this culture fosters collective growth and confidence among educators. Similarly, the theme of building confidence and optimism for a future-ready, technology-enhanced education emphasizes that integrating technology is an ongoing journey. As teachers succeed in using technology, they gain the confidence to embrace newer tools, supported by institutional investment and evolving educational infrastructure.

Finally, a balanced and adaptive approach to technology integration emphasizes the importance of recognizing both the benefits and limitations of digital tools. Effective integration requires careful planning, continuous training, feedback-driven adjustments, and inclusive involvement of all stakeholders—including students, parents, and administrators—to ensure technology serves as a dynamic and meaningful tool in the evolving educational landscape.

To build upon the findings of this study, future research could investigate the impact of specific technology tools or platforms on student learning outcomes and the effectiveness of different professional development models for improving teacher technology integration. Additionally, research could explore the role of student-centered

teaching approaches in technology integration and the potential benefits and challenges of using technology to support diverse learners.

Another avenue for future research is to examine the impact of technology integration on long-term student outcomes, such as college and career readiness, and to identify best practices for using technology to support student success beyond the classroom. Finally, research could investigate the role of technology in promoting equity and access to education, particularly for underserved populations.

5. Concluding Remarks

As we reflect on the journey of integrating instructional technology into public education, it becomes clear that this path is paved with experiences. The potential for technology to revolutionize learning is undeniable, yet it is equally important to acknowledge the challenges accompanying this transformation. By embracing these complexities, educators can unlock new avenues for student engagement, motivation, and participation, ultimately crafting a more dynamic and inclusive educational landscape.

The resilience of educators is a beacon of hope in this journey. Teachers have demonstrated an unwavering commitment to harnessing technology's potential through their creativity, resourcefulness, and proactive attitudes. This study highlights the importance of fostering a culture of collaboration and continuous learning, where educators support each other in navigating the ever-evolving digital terrain. By doing so, they enhance their capabilities and empower students with the skills and knowledge required to thrive in a rapidly changing world.

The true power of instructional technology lies not in the tools themselves but in the collective vision and determination of those who wield them. As educators, policymakers, and technology developers join forces, they can create a future where technology is not just a tool but a catalyst for transformative learning experiences. By embracing this collaborative spirit, we can ensure that the next generation is equipped with the agility, creativity, and resilience needed to succeed in an increasingly interconnected digital world. Together, we can forge a brighter future where technology enhances education rather than merely augmenting it.

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