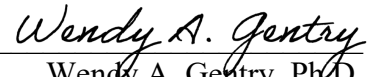**Exploring Nepali K-12 Teachers' Perspectives on Integrating Educational**

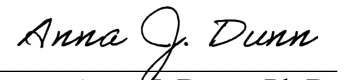**Technology in Instructional Practices**

Sabina KC

B.Sc., Tribhuvan University, 2015

M.Sc., Emporia State University, 2017

Submitted to the Faculty of the School of Education of Baker University

in partial fulfillment of the requirements for the degree of

Doctor of Education in Instructional Design and Performance Technology

_____
Wendy A. Gentry
Wendy A. Gentry, Ph.D.
Major Advisor

_____
Anna J. Dunn
Anna J. Dunn, Ph.D.

_____
Marcus Childress, Ph.D.

Date Defended: March 4, 2025

Abstract

The purpose of this study was to explore the attitudes of Nepali K-12 teachers toward the use of educational technology (EdTech) in instructional practices, identifying both the opportunities and challenges they face. With limited research on EdTech integration in Nepal's education system, this phenomenological study provides a comprehensive understanding of teachers' perceptions and preparedness, which is crucial for successfully implementing technology in classrooms. Data were collected through semi-structured interviews with 13 K-12 teachers in Nepal and analyzed using Braun and Clarke's (2006) thematic analysis method. Findings reveal mixed feelings among teachers regarding EdTech use. While recognizing its potential to enhance student engagement and learning outcomes, teachers highlighted significant challenges, including insufficient training, technical issues, and unequal access to technology. Opportunities for effective integration include the provision of modern technological tools by schools and the development of engaging interactive lessons. Teachers needed hands-on, subject-specific training to build confidence and competence in EdTech. The study underscores the importance of professional development programs, resource allocation, and infrastructural improvements to support technology integration in Nepali classrooms. It recommends that future research focus on effective strategies for overcoming integration challenges, expanding the study to include higher education institutions and exploring the impact of hands-on training and resource availability on EdTech adoption. This research contributes valuable insights for policymakers, educators, and stakeholders aiming to enhance the educational landscape in Nepal through technology.

Dedication

With all my love and deepest gratitude, I dedicate this dissertation to the most cherished people in my life. To my incredible husband, Tyler Xavier Swart—your unwavering belief in me, your endless encouragement, and your steadfast support have been my anchor throughout this journey. You have stood by my side through every late night, every challenge, and every triumph. I couldn't have done this without you. To my amazing parents—you have been my biggest cheerleaders since my earliest days in elementary school, always knowing in your hearts that I would one day earn the title of "Doctor," no matter the path. Your faith in me has been my guiding light, and your love has given me the strength to keep going. To my wonderful in-laws—your encouragement and belief in my potential have meant so much to me, pushing me forward even when the road felt long. To my incredible siblings—your words of encouragement, unwavering support, and constant reminders that I could achieve this dream have fueled me through every step of this journey. Knowing I had you cheering me on has made all the difference. And to my precious daughter, Amara, who will grace our lives this Spring, you are my greatest inspiration, driving force, and the reason I found the strength to complete this journey. Even before your arrival, you have already changed my life in the most beautiful way. I cannot wait to hold you in my arms and share this moment with you one day.

Acknowledgments

This dissertation is the culmination of my Ed.D. The IDPT journey mirrors the experience of climbing Mount Everest—one step at a time, overcoming challenges with resilience, determination, and unwavering trust in those who supported me along the way. Just as no climber reaches the summit alone, this accomplishment is not mine alone; it belongs to all those who have guided, encouraged, and uplifted me throughout this expedition. I am profoundly grateful to my mentor, Dr. Marcus Childress, whose wisdom and guidance have been instrumental in shaping my academic and professional growth. My deepest gratitude extends to my major advisor, professor, mentor, and cheerleader, Dr. Wendy Gentry, and my professor and mentor, Dr. Regena Aye, for their steadfast belief in my abilities and for providing unwavering support throughout this research journey. I also express my heartfelt appreciation to Dr. Kyunghwa Cho, whose encouragement and insights have been invaluable in overcoming obstacles and refining my work.

I am especially thankful to Dr. Anna Dunn and Dr. Marcus Childress for serving on my committee. Their valuable insights, thoughtful feedback, and unwavering support have been essential in shaping this dissertation and ensuring its successful completion. I extend my sincere thanks to the dedicated teachers from Nepal who participated in and supported my research. As a proud Nepali, I find their contributions to hold a special place in my heart, reminding me of the power of education and the incredible dedication of educators in my home country. A special thanks to my incredible group of classmates, Rick, Jaime, and Ryne, who provided constant encouragement, motivation, and camaraderie throughout this journey. Their support, shared struggles, and moments of

celebration made this experience even more meaningful, reminding me that success is best when shared.

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Chapter 1

Introduction

The COVID-19 pandemic, a worldwide health crisis, stimulated an education overhaul that accelerated the achievement gap, learning loss, and dropout rate due to school closures (Sahu, 2020). While many educators and students successfully moved to the online delivery mode for education, educators and students in countries like Nepal were unprepared (Khanal, 2023; Sahu, 2020; United Nations, 2020). Most Western countries in Europe and North America have been offering online delivery education in some form since the early 2000s (Sahu, 2020). Every year, millions of dollars are invested in the training and integration of educational technology (EdTech) in the United States (Sahu, 2020). While online learning is not the perfect modality, the United States and parts of Europe already had additional resources and were better prepared to move entirely online during the pandemic than the countries that had not used Learning Management System (LMS) or EdTech for their day-to-day teaching and learning (Sahu, 2020). During the pandemic, the education system in Nepal, just like the whole world, experienced a substantial shift.

Educators had to prepare for fully online integrated education for all grades, and the impact of fully online education was substantial (Khanal, 2023). During the COVID-19 pandemic, an estimated eight million Nepali students were kept inside their homes, and 35,000 schools across Nepal closed for weeks to shift to online learning (Dangal & Maharjan, 2021). The current study focused on understanding how Nepali K-12 teachers perceived the opportunities and challenges in integrating EdTech into their instructional practices and described their attitudes towards using it. Chapter 1 provides background

information, the statement of the problem, the purpose of the study, and its significance

for the field of education. Chapter 1 also includes the study's delimitations, assumptions,

guiding research questions, and operational definitions of terms used throughout the

study.

Background

The COVID-19 pandemic prompted a rethinking of teaching and learning

methods, leading Nepal's Ministry of Education to introduce the Sikai Chautari online

platform on May 30, 2020 (Gyawali & Bhatta, 2021; Khanal, 2023). Most schools in the

country shifted to online learning during the pandemic, utilizing this platform (Dangal &

Maharjan, 2021; Kunwar et al., 2020). The initiative aimed to facilitate continuous

learning through various resources. While initial engagement from students and teachers

fell short of expectations, the platform represents the government's first stride toward

enhancing technology use in education (Gyawali & Bhatta, 2021; Khanal, 2023).

Dawadi et al. (2020) and Kunwar et al. (2020) found that many teachers did not

seem to have adequate skills to facilitate online classes or leverage EdTech as they had

neither been trained nor involved in online teaching. While EdTech could be a tool

teachers could use to support student outcomes, more training is needed. The education

system in Nepal struggled with COVID-19, and for most schools, in addition to

infrastructure, unfamiliarity on the part of teachers and school managers is a barrier to

providing distance learning (Dawadi et al., 2020; Kunwar et al., 2020). The Nepalese

government authorized several governmental and educational entities to conduct limited

classes on radio and television during COVID-19. However, not all Nepali students can

yet access those lessons since approximately 20% of people in Nepal do not have access

to radio and/or television (Poudel, 2020). Lack of access to the necessary technology to support online learning was particularly prevalent in rural areas, where students and teachers lacked the internet speeds and technology needed to effectively teach or learn online (Kunwar et al., 2020).

Srivastava (2023a) indicated there remains a potential to revolutionize the education system in Nepal by improving accessibility, efficiency, and effectiveness by integrating EdTech. With EdTech, teachers could deliver lectures, conduct evaluation assessments, and provide student feedback (Srivastava, 2023a). Nepal's education system faces many challenges, including inadequate infrastructure, limited resources, and lack of access to quality educational materials; however, digital technology has the potential to address some of these challenges (Srivastava, 2023b). The primary benefits of EdTech in the country's education system are accessibility and efficiency for everyone (Srivastava, 2023a).

While the use of digital technology exploded in Nepal and around the world during the pandemic, Sahu (2020) declared that there was the potential for the technology to remain relevant after the pandemic ends and that online instruction in Nepal could maintain its relevance post-COVID-19 by adapting and evolving to meet learners' changing needs and preferences. EdTech was useful for students beyond teaching during the pandemic. According to Sahu (2020), for online instruction to continue to be viable, it will be vital to understand teachers' attitudes towards Educational Technology and confidence in implementing and if they feel they need additional training or support, focusing on incorporating EdTech as a fundamental instructional tool within the classroom setting.

Statement of the Problem

In Nepal's rapidly evolving education landscape, integrating EdTech as an instructional tool has the potential to enhance teaching and learning (Dangal & Maharjan, 2021). During the COVID-19 global pandemic, 35,000 schools in Nepal shifted to online learning (Dangal & Maharjan, 2021). However, to effectively harness the benefits of EdTech, it is imperative to understand the perceptions of Nepali teachers regarding EdTech and identify areas of further need and support for Nepali teachers to utilize these tools within their classrooms (Dangal & Maharjan, 2021; Dawadi et al., 2020). A comprehensive understanding of the EdTech landscape from the perspective of teachers in Nepal poses a substantial challenge to the country's education system (Khanal, 2023; Kunwar et al., 2020). To effectively integrate EdTech, it is necessary to identify the tools and resources that are available to teachers (Kunwar et al., 2020). Clarity is needed to better inform educational policymakers and administrators about making informed decisions about allocating resources, training programs, and strategic planning to enhance the technological infrastructure in schools (Khanal, 2023). It is crucial to evaluate EdTech opportunities to empower Nepali teachers with the necessary tools that could improve the quality of education and better prepare students for the demands of the modern world (Srivastava, 2023a).

Furthermore, the absence of insights into the perceptions and preparedness of Nepali teachers regarding the utilization of EdTech further exacerbates the problem. Understanding educators' attitudes, beliefs, and skill levels is crucial for successfully implementing technology in classrooms (Khanal, 2023). Without this knowledge, there is a risk of implementing initiatives that may not align with the needs and preferences of the

teaching community (Srivastava, 2023b). Additionally, without addressing the specific

challenges and concerns that Nepali teachers may have incorporating technology, there

remains a potential for resistance or ineffective use of these tools. Therefore, bridging the

gap in the literature regarding the availability of EdTech and the perceptions of Nepali

teachers is essential for developing targeted interventions that can genuinely enhance the

educational landscape in the country (Srivastava, 2023a).

Purpose of the Study

The purpose of this study was to describe how Nepali K-12 teachers' attitudes

toward using EdTech in instructional practices. This study aimed to identify the

opportunities and challenges in integrating EdTech into their instructional practices. The

advent of EdTech has presented educators with a unique opportunity to revolutionize

teaching and learning, and it was paramount to ascertain the perceptions and readiness of

Nepali teachers to embrace this transformative pedagogical shift (Khanal, 2023;

Srivastava, 2023a). The study attempted to determine what teachers perceive as

opportunities to integrate EdTech into their instructional practices and what they perceive

as challenges to integrating EdTech into their instructional practices. This study also

explored Nepali K-12 teachers' perceptions of the areas where they need additional

training or support to effectively integrate EdTech into their instructional practices.

Significance of the Study

This research investigated Nepali K-12 teachers' attitudes toward EdTech use in

instructional practices, how they perceived their opportunities, and challenges integrating

EdTech into their instructional practices. By examining the challenges they encounter,

this study sought to understand the phenomena that could provide valuable insights into

the role of EdTech in the Nepali classroom context and identify opportunities and strategies for enhancing teachers' readiness to leverage EdTech. This research sought to contribute meaningfully to the discourse on the role of technology in education in Nepal by elucidating teachers' opportunities and challenges in integrating EdTech into their instructional practices. By uncovering the opportunities and challenges associated with EdTech integration, it aspired to provide insights that could inform policies, professional development programs, and classroom practices to optimize the benefits of technology in Nepali education.

Technology has become an integral part of the educational process, offering new and innovative ways to enhance learning outcomes and expanding the potential of EdTech in K-12 education in Nepal long after COVID-19 or any other pandemic (Gyawali & Bhatta, 2021). Understanding Nepali K-12 teacher's attitudes and challenges in integrating EdTech into their instructional practices can provide valuable insights into the cultural and contextual factors influencing the adoption of digital tools in the classroom (Gyawali & Bhatta, 2021). This study can shed light on potential opportunities and challenges, helping educators, policymakers, and curriculum developers tailor interventions and strategies that align with Nepali teachers' unique needs and preferences (Gyawali & Bhatta, 2021).

Furthermore, this examination is crucial for ensuring effective adaptation of any future EdTech (Gyawali & Bhatta, 2021). The study can identify knowledge, skills, and resources that may hinder successful integration. Addressing these gaps can contribute to the professional development of teachers, empowering them to harness the full potential of technology for educational purposes (Gyawali & Bhatta, 2021). Additionally, insights

from this research can inform the design of targeted training programs and support mechanisms to bridge the digital divide and enhance the overall quality of education in Nepal. Ultimately, the findings of this study can play a pivotal role in shaping policies and initiatives aimed at fostering a tech-savvy and adaptive teaching community in Nepal, fostering a more technologically enriched learning environment for students.

For example, educators could continue to harness the benefits of technology to enhance the learning experience, incorporating interactive and engaging multimedia elements (Sahu, 2020). Collaborative platforms and virtual classrooms can foster community among students, creating a supportive online learning environment. Furthermore, ongoing professional development for teachers can ensure they stay abreast of the latest educational technologies and pedagogical approaches. Flexibility in course structures, allowing for a blend of online and in-person elements, can accommodate diverse learning preferences (Sahu, 2020).

Finally, the significance of this study exploring Nepali K-12 teachers' perceptions of challenges to integrating EdTech into their instructional practices lies in its potential to enhance the quality and effectiveness of education in Nepal. Understanding these challenges can inform policymakers, educators, and stakeholders about the specific barriers teachers face, such as lack of resources, insufficient training, or resistance to change (Srivastava, 2023b). By identifying and addressing these issues, the study can contribute to the development of targeted strategies and professional development programs that support teachers in effectively utilizing EdTech (Srivastava, 2023a). This, in turn, can improve student engagement and learning outcomes, fostering a more modern and competitive educational system in Nepal (Srivastava, 2023b).

Delimitations

Creswell and Creswell (2017) notes that delimitations in a research study are explicit boundaries, restrictions, or limitations that researchers set to define the scope and parameters of their investigation. This study included several delimitations. First, the study was limited to K-12 teachers currently teaching in Nepal. Another delimiting factor was that the study included only teachers with current or prior experience in teaching courses with an online component.

Assumptions

Assumptions in qualitative work are foundational beliefs or premises that guide the research process (Creswell & Creswell, 2017). They provide a framework for understanding the phenomena under investigation and help researchers interpret their findings within a specific context (Creswell & Creswell, 2017). These assumptions are necessary because they shape the research design, methodology, and data interpretation, ultimately contributing to the validity and reliability of the qualitative study (Creswell & Creswell, 2017). Several key assumptions were made for this study. There was the assumption that the sample of K-12 teachers in Nepal was representative of the broader population of similar teachers. It was also assumed that participants understood the interview questions fully, provided honest and accurate responses, and had sufficient knowledge and experience with EdTech to offer meaningful insights.

Research Questions

RQ1

What are Nepali K-12 teachers' attitudes toward educational technology use in instructional practices?

RQ2

What do Nepali K-12 teachers perceive as opportunities to integrate educational technology into their instructional practices?

RQ3

What do Nepali K-12 teachers perceive as challenges to integrating educational technology into their instructional practices?

RQ4

What are Nepali K-12 teachers' perceptions of the areas where they need additional training or support to effectively integrate educational technology into their instructional practices?

Definition of Terms

Classroom Setting

Classroom settings are the physical and pedagogical environments where teaching and learning occur (Dawadi et al., 2020). Understanding how EdTech fits into the existing classroom setting is crucial for evaluating its effectiveness and addressing any challenges associated with its implementation.

Educational Technology (EdTech)

EdTech refers to using digital tools, resources, and devices to enhance the teaching and learning process. In the context of the study, it specifically pertains to technologies employed in the classroom setting to support instructional activities, such as interactive whiteboards, educational software, online platforms, and other digital resources (Dawadi et al., 2020).

Instructional Tool

Instructional tools are educational resources or technologies used by teachers to facilitate and enhance the students' learning experiences (Dawadi et al., 2020). It refers to the role of technology as a fundamental component of the teaching toolkit and its impact on instructional methods.

Support Mechanisms

Support mechanisms involve understanding the types of assistance, guidance, or resources teachers perceive as essential to effectively incorporate EdTech into their classrooms. Support mechanisms may include professional development opportunities, mentorship programs, access to technical assistance, or collaboration with colleagues to share best practices and experiences related to EdTech integration. Identifying these support needs can inform strategies to enhance teacher preparedness and confidence in utilizing technology as a fundamental instructional tool (Gyawali & Bhatta, 2021).

Teacher Attitudes

Teachers' attitudes encompass their feelings, beliefs, and perceptions about integrating EdTech into their teaching practices. They involve understanding whether teachers view technology as a positive or negative influence on education, their level of enthusiasm or resistance, and any preconceived notions that may impact their willingness to incorporate technology into their instructional methods (Gyawali & Bhatta, 2021).

Training Needs

Training needs to identify specific areas where teachers feel they lack the knowledge, skills, or experience required to integrate EdTech into their teaching practices successfully (Dawadi et al., 2020). It includes assessing whether teachers feel adequately

prepared to address challenges, troubleshoot technical issues, and maximize available resources to enhance student engagement and learning outcomes (Dawadi et al., 2020).

Organization of the Study

Chapter 1 included an introduction to the study. Chapter 2 presents a comprehensive literature review that outlines the gaps in the literature and theoretical framework. Chapter 3 describes the methods employed in the study, including the research design, data collection process, instruments, data analysis steps, procedures used to support the study's reliability and trustworthiness, the researcher's role in the study, and the study's limitations. Chapter 4 presents the study's results by research question, including information about the participants included in the study and the themes identified during data analysis. Chapter 5 includes a discussion of the results of the study, including how the results of this study align with findings in the literature, implications for action, and recommendations for future research.

Chapter 2

Review of the Literature

Integrating EdTech in schools has become an important factor in educational reforms to enhance learning practices and student performance. In developing countries like Nepal, classroom technology presents unique opportunities and challenges due to limited access to technical support, training, and resources (Yılmaz, 2021). This literature review begins by examining the conceptual framework from which the study is pursued, including the Technology Acceptance Model (TAM) and the Technological Pedagogical Content Knowledge (TPACK) model. This chapter reviews existing literature on K-12 teachers' attitudes toward EdTech, the opportunities and challenges to integrating EdTech, and their perceptions of the areas where they need additional training or support for instructional practices. Furthermore, the chapter also explores the relevance of these topics in the context of Nepal. The chapter concludes with a summary.

Conceptual Framework

The conceptual frameworks of this study are the TAM and TPACK models. Together, they provide a comprehensive view of the adoption decision and the subsequent implementation process in EdTech integration.

The Technology Acceptance Model (TAM)

The TAM posits that two key factors influence potential users' adoption of technology: perceived ease of use and perceived usefulness (Davis, 1989). Davis (1989) suggested that even though the developer of a technological tool might perceive it to be useful and user-friendly, potential users might not accept the tool unless they share those beliefs.

According to the model, the acceptance of technology comprises three key components: the system design features (external factors), trigger cognitive responses (the perceived benefits and ease of use), and form an effective response (users' attitude toward using the technology). In TAM, user behavior is determined by perceived usefulness, ease of use, and behavioral intention (Davis et al., 2023). Perceived usefulness and ease of use represent the users' expectations of positive behavioral outcomes, while behavioral intention can be replaced by users' attitudes toward the technology (AlQudah et al., 2021). The model posits that if a technology is perceived as easy to use, it is more likely to be considered useful, thus increasing its acceptance (Natasia et al., 2022).

According to Saif et al. (2020), a teacher's perception of usefulness can be influenced by several factors, such as enhanced student outcomes, learning efficiency, and student engagement. Similarly, teachers are likely to adopt technology if they perceive it as easy to use, which depends on an intuitive interface and access to technical support (Saif et al., 2020). Teachers with high perceptions of ease of use and usefulness develop positive attitudes toward educational technologies. According to Cabero-Almenara et al. (2021), positive attitudes increase the adoption of EdTech; however, if technology is perceived as less useful and challenging to use, teachers develop negative attitudes, resulting in reluctance to adopt the technology.

The Technological Pedagogical Content Knowledge (TPACK)

The Technological Pedagogical Content Knowledge (TPACK) is an educational framework that explains the interaction between technology and educational content to ensure the effective integration of technology in schools (Santos & Castro, 2021). The

model was developed by Matthew Koehler and Punya Mishra in 2006 at Michigan State University (Santos & Castro, 2021). TPACK focuses on pedagogical knowledge, technological knowledge, and content knowledge to offer a comprehensive approach to the challenges teachers experience in integrating technology in the classroom (Lachner et al., 2021). By differentiating the three forms of knowledge, TPACK describes how content knowledge and pedagogy knowledge are vital in effectively integrating edtech (Lachner et al., 2021). The Technological Pedagogical Content Knowledge (TPACK) by Mishra and Koehler (Hartwell, 2020) is one of the most accepted frameworks for integrating EdTech. The framework highlights the interplay between three core components: CK- Content Knowledge, PK- Pedagogical Knowledge, and TK- Technological Knowledge. Successful technology integration is achieved at the crossover point of subject matter expertise, teaching methods, and technology at a level suitable for supporting the students' learning objectives (Mohebi, 2021). Technology integration can be observed as a trimetric view, which implies different layers of usage and impact.

According to the TPACK model, specific technological tools are used in schools to instruct and guide learners to ensure a robust and comprehensive understanding of concepts. The TPACK model helps teachers integrate technology into their teaching practices in a meaningful way. Using this model, educators can integrate EdTech in schools to improve students' results (Lachner et al., 2021). Pedagogical content knowledge focuses on the interaction between classroom practices and students' learning objectives, whereas technological pedagogical knowledge describes the interaction between pedagogical practices and technological tools, and technological content knowledge explains how learners interact with the technologies (Lachner et al., 2021).

Adopting technology in a learning environment requires acknowledgment of the relationship between pedagogy, content, and technology to be integrated.

EdTech has become an integral part of the teaching-learning process of modern education. According to Eden et al. (2024), technology has a significant role in our lives, and thus, it is paramount to intelligently use it in education enhancement. According to the TPACK model, technology should not merely be added to the classroom for its own sake but thoughtfully integrated in ways that enhance content delivery and pedagogical approaches (Mohebi, 2021). EdTech integration refers to employing technology tools in education curricula for instructional purposes (Kale et al., 2020). This concept aligns closely with TPACK, which emphasizes the importance of integrating technology with pedagogical and content knowledge, and educators must align their use of technology with the specific learning objectives and teaching strategies relevant to the content they are delivering. Technological integration is not a mere auxiliary use of technology; it also means that technology is incorporated into the very process of teaching and learning (Heath et al., 2022). This holistic approach reflects the core elements of TPACK, where technology integration necessitates the cooperation of technology with teaching objectives, subject matter content, and student learning requirements.

In essence, TPACK calls for a trimetric view of technology integration, where the overlap of CK, PK, and TK represents the optimal teaching approach. Continuous evaluation and refinement of technology integration practices are necessary to ensure their effectiveness and alignment with educational goals (Yurtseven et al., 2020). Ultimately, by aligning technology with pedagogical goals, subject matter content, and student learning needs, educators can unlock the transformative potential of technology to

enhance the educational experience (Ruiz-Rojas et al., 2023). This comprehensive

approach to technology integration reflects TPACK's core philosophy: technology is not

just an add-on but an essential part of the instructional process that must be continually

refined and evaluated to meet the evolving needs of both students and educational goals

(Heath et al., 2022; Yurtseven et al., 2020).

K-12 Teachers' Attitudes Towards EdTech Integration in Instructional Practices

Research about K-12 teachers' propensity toward EdTech incorporation in their

practices shows that the world has a somewhat nuanced landscape. International research

has revealed that teachers' self-confidence is an essential precondition for EdTech

effectiveness globally (Kohler et al., 2023; Redmond et al., 2021). A positive attitude

towards EdTech may be associated with better learning performance and a more open

attitude towards embracing new technologies in learning and teaching (Lytras et al.,

2022). In the early stages, the developed nations also resisted EdTech, but over time, they

have come to accept and acknowledge the value of EdTech; this is attributed to several

reasons, such as the availability of access, user-friendly technologies, and professional

development (Haleem et al., 2022; Yehya, 2021). However, the situation in developing

countries is quite different. Inadequate access to technology and digital tools makes it

difficult for educators to adopt EdTech solutions into effective classroom methods.

Although global tendencies help provide specific guidelines, socio-economic and

cultural differences between different parts of the world require more thorough

investigations to reveal the current attitudes, difficulties, and possible approaches to

EdTech implementation in schools. Comparative population and cross-sectional studies

should be conducted to identify the factors that affect the teachers' attitudes in different

environments and understand how their attitudes have changed in the wake of the most recent global occurrences, such as the COVID-19 pandemic (Dasilva, 2024). The advances are opening up possibilities for teachers, which underline the necessity of constant comparison regarding teachers' perceptions and readiness. In addition, increased focus on developing skills necessary to succeed in the 21st century and digital competence has put more pressure on education systems worldwide to incorporate technology appropriately (Sharma, 2022).

Prior Research on K-12 Teachers' Attitudes Towards EdTech Integration

Previous research related to K-12 teachers' perceptions of adopting EdTech in their classrooms has been generally positive. Boonmoh et al. (2021) administered a cross-sectional survey in the United States and found that teachers perceived technology as enhancing students' learning. Likewise, a cross-sectional study by Aznar-Díaz et al. (2020) explored the perceptions of Spanish teachers and revealed that they had positive attitudes toward integrating mobile technology in learning and teaching. Retrospective outcomes analysis offers a degree of equivalence across diverse cultural settings. Like any other new ideology used in the teaching-learning process, various aspects influence teachers and their receptiveness towards using EdTech. Saienko et al. (2020) confirmed the positive correlation between teachers' perceived self-efficacy regarding technology use and their attitudes toward EdTech integration into teaching.

Yurtseven Avci et al. (2020) also stressed that teachers' positive attitudes toward the instruction of technology-related skills depended on their development. According to Akram et al. (2022), perceived usefulness was among the most significant factors affecting teachers' attitudes toward technology. Similarly, Tołwińska (2021) found that

schools with favorable administration had teachers with more positive sentiments toward EdTech. The results complement the trends seen at the general level, and the findings of the studies shed more light on the perspectives of K-12 teachers towards EdTech adoption and the factors influencing the process.

International Perspectives on EdTech Integration

As the digital age continues to influence the educational environment, teachers' confidence in technology is a significant factor influencing effective use, adoption, and ultimately sustainable change. Existing literature studies have shown that teacher confidence can affect how technology is accepted and used in the classroom (Bolaji & Adeoye, 2022; Boonmoh et al., 2021; Ramzan et al., 2023). A favorable outlook toward EdTech usually reflects a desire to immerse into new instruments and educational methods, and, as a result, it plays a significant role in improving the learning process (Lytras et al., 2022).

Teachers' attitudes in EdTech have evolved in many developed nations, where access to technology and digital resources has been more readily available. Initially, there was apprehension and resistance, stemming from concerns about the disruption of traditional teaching methods, fears of losing control in the classroom, and doubts about the effectiveness of technology in improving learning outcomes (Haleem et al., 2022; Lytras et al., 2022). However, as technology became more prevalent and user-friendly, and as professional development opportunities increased, many teachers began to recognize the potential benefits, such as increased student engagement, access to a wealth of resources, and opportunities for personalized learning (Alamri et al., 2020).

Opportunities To Integrate EdTech into Instructional Practices

Specific Opportunities for EdTech Integration

This section focuses on the opportunities to integrate EdTech into instructional practices. The opportunities include the rapidly evolving educational landscape, infrastructure and availability of resources, teacher preparation and training, leadership and organizational culture, perceived relevance, and ongoing support and development.

Evolving Educational Landscape. The literature has indicated that researchers have identified accessibility to infrastructure and resources as the key antecedents to EdTech integration. Qashou (2021) and Eze et al. (2020) concur that obtaining hardware, secure connection, and suitable software when incorporating technology is challenging. This is apparent, especially in developing countries, where the COVID-19 threat accelerated the disclosures of the social and physical infrastructural digital divides that present challenges in online learning initiatives (Ramsetty & Adams, 2020). According to Valverde-Berrocoso et al. (2021), teachers with low levels of skills, knowledge, or confidence in using technology are bound to have poor interactions with technology.

On an international level, the leadership and organizational culture of promoting the adoption of EdTech has been explored widely, as noted by Caliskan and Zhu (2020) and Fischer et al. (2020); these authors stress the importance of school administrators and policymakers in mediating the vision for and resources that are available to integrate and use technology in education and learning. Studies have shown that significant increases in EdTech adoption and usage and improvement in the educational effectiveness of different systems can be achieved by promoting a culture that supports innovation, collaboration, and learning. Additionally, Al-Ruhma et al. (2021) and Antunes et al.

(2023) acknowledged that perceived benefits and relevance are critical factors affecting the acceptance and implementation of EdTech by educators and other related stakeholders.

Infrastructure and Resource Availability. In the rapidly evolving landscape of education, the integration of technology has become imperative, offering unprecedented opportunities to enhance teaching and learning experiences. However, the successful adoption of EdTech is influenced by several factors that can either facilitate or impede its effective implementation (Leow et al., 2021). This section examines the availability of resources and infrastructure.

Key resources include hardware devices such as computers, tablets, and interactive whiteboards, as well as stable internet connectivity and appropriate software applications (Qashou, 2021). Integrating technology into teaching-learning processes without adequate resources and infrastructure becomes an almost unmanageable task, an impediment to widespread adoption and effective use (Eze et al., 2020). The digital divide and limited access to resources are major restrictions in the technology integration process in education in Nepal. During the COVID-19 pandemic, schools moved online, and Nepali students and educators encountered challenges of weak internet connectivity and the absence of digital devices (Khanal, 2023). Addressing these infrastructure gaps remains a key opportunity in achieving access to EdTech and facilitating its adoption in Nepal.

Leadership and Organizational Culture. School administrators and policymakers play a crucial role in setting the vision, allocating resources, and establishing a climate where technology use in education is valued and promoted

(Caliskan & Zhu, 2020). An organizational culture that encourages innovation, continuous learning, and collaboration can enhance the adoption and effective utilization of EdTech (Fischer et al., 2020).

      Perceived Relevance. When educational stakeholders perceive technology as a tool to enhance student outcomes, improve engagement, and provide access to diverse resources, they are more likely to adopt technology in the education process (Al-Rahmi et al., 2021). However, if the advantages and significance of technology are not properly comprehended and shared, the acceptance might be obstructed by doubt or resistance (Antunes et al., 2023).

      Funding and Resource Allocation. Sufficient funding and resource distribution are essential components affecting the level of technology adoption in education. In addition, there will be the need for equipment, software, infrastructure, training, and technical support to make technology an integral part of teaching and learning (Liu et al., 2020). Inadequate budgetary allocations to EdTech or a lack of prioritization can equally hinder its adoption and, consequently, its potential benefits (Alshurafat et al., 2021). Collaboration with educational institutions, government bodies, and private sector partners can be utilized to address the funding issue and ensure that resources are allocated effectively to support technology adoption programs.

Prior Research on K-12 Teachers' Perceptions of EdTech Integration Opportunities

      Teachers' overall attitude towards EdTech has been found to be positive, with each identifying the use of the technology increasing the likelihood of impacting students' engagement and performance. For instance, Bowman et al. (2022) observed that teachers in the United States thought that technology enhanced students' learning, thus

boosting future academic performance. Similarly, teachers' beliefs about EdTech are also positive, with educators sampled by Major et al. (2021) regarding technology as a tool for delivering student-centered instruction. The sharing of learning resources within the technology adoption process was pointed out by teachers in a study conducted by Matee et al. (2023).

Similarly, STEM teachers were observed to use technology integration opportunities more frequently. For example, Sungur Gül and Ateş (2023) revealed that the technology-based STEM education training of the study positively influenced pre-service science teachers' perceived ease of use, perceived usefulness, attitude, and intention to use the technology-based STEM education. Overall, these investigations suggest that the effectiveness of EdTech integration as perceived by teachers is mostly positive but with some elements of concern due to concerned practicality and adjusted self-efficacy levels. In summary, the use of EdTech in instructional practices is determined by numerous factors that need to be properly studied and resolved. Access to resources and infrastructure, comprehensive teacher training and support, and a culture of the organization that is creating the conditions for the adoption of technologies in schools can be affected by many factors (Al-Rahmi et al., 2021; Valverde-Berrocoso et al., 2021). By stressing technology advantages and learning relevancy, integrating digital tools with the curriculum and pedagogical practices, and creating professional learning communities with appropriate funding, education establishments can ensure the successful adoption of technology and discover the revolutionary effects of digital tools in teaching and learning experiences.

Challenges in Integrating Technology in Nepali K-12 Classrooms

Infrastructure

In Nepal, the journey towards technology integration in classrooms has been fraught with challenges that have hindered the widespread adoption and effective implementation of digital tools and resources (Thapaliya et al., 2024). One of the most significant challenges in integrating technology in Nepali classrooms is the lack of adequate infrastructure and resources (Khadka, 2021). As established by Khadka (2021), many schools, particularly in rural and remote areas, lack access to reliable electricity, internet connectivity, and hardware such as computers, tablets, and interactive displays. Without these fundamental resources, the integration of technology becomes a daunting task, limiting the ability of educators to leverage digital tools for teaching and learning.

Limited Financial Resources

Educational institutions in Nepal often operate on tight budgets, making it difficult to allocate sufficient funds for the procurement and maintenance of technology resources (Lim et al., 2020). The financial constraint can hinder the adoption of cutting-edge educational technologies and impede the professional development and training initiatives necessary for effective technology integration.

Digital Literacy

Another significant challenge is the limited digital literacy and technical proficiency among Nepali educators (Saud, 2021). Many teachers, particularly those who have been in the profession for an extended period, may lack the necessary skills and knowledge to integrate technology effectively into their instructional practices (Sapkota, 2020). The digital divide among educators can create resistance or apprehension toward

adopting new technologies, hindering their widespread acceptance and implementation in classrooms.

Cultural and Social Factors

In some communities, deeply rooted traditions and beliefs may prioritize traditional teaching methods over incorporating digital tools (Bhattarai, 2021). The COVID-19 pandemic forced schools to transition to remote and online learning modalities, highlighting the challenges of technology integration in Nepal (Paudel, 2021). During this period, many students and educators faced significant obstacles in accessing digital resources and adapting to technology-enabled learning environments (Paudel, 2021). The abrupt shift exposed the education system's unpreparedness to address the digital divide.

Internal Resistance

Gurung and Shrestha (2023) reported that the limited availability of high-quality digital resources, such as e-books, multimedia content, and online learning materials, aligned with the Nepali curriculum and in local languages, can hinder technology integration, as developing or adapting such resources can be time-consuming and resource intensive. Along the same lines, Faloye and Ajayi (2022) established that socio-economic disparities among students can lead to unequal access to technology, creating a digital divide, where students from underprivileged backgrounds may have limited exposure or access to technology, impacting their ability to fully benefit from technology-based learning initiatives (Faloye & Ajayi, 2022). Additionally, ensuring proper technical support and maintenance for the technology infrastructure in schools, particularly in remote areas where access to skilled technicians is limited, poses a

challenge for technology integration in Nepali classrooms (Al-Abdullah & Hassan, 2023).

Power Outages

Frequent power outages and energy supply issues in many parts of Nepal can severely disrupt the use of technology in classrooms, compromising the learning process (Atreya & Acharya, 2020). Compounding this challenge is the shortage of skilled personnel, such as IT professionals or educational technologists, who can provide technical support, maintenance, and guidance for effective technology integration in schools. Additionally, Salas-Pilco et al. (2022) found that the lack of contextualized digital educational resources tailored to the local context, cultural nuances, and learning preferences of Nepali students may hinder engagement and the effectiveness of technology-based learning initiatives.

Prior Research on K-12 Teachers' Perceptions of EdTech Integration Challenges

Research conducted among K-12 teachers regarding their perceptions of EdTech integration challenges in developed nations has identified a number of persistent issues. Lack of time is a common theme in the literature, and Hébert et al. (2021) observed that teachers particularly complained of inadequate time to get acquainted with the technology. Insufficient infrastructure and resources are also factors that contribute to numerous challenges. According to Kibuku et al. (2020), a low integration rate was observed in schools with inadequate infrastructure in Kenya.

Technical challenges often affect most educators. For example, according to Christopoulos and Sprangers (2021), most teachers encounter technical difficulties in delivering EdTech-supported learning. Another widely reported issue is a lack of

professional development. Francom (2020) stated that the lack of professional development weakens schools' use of EdTech integration. Other often reported difficulties include the EdTech requirements not being aligned with curriculum needs, behavior management in the learning environment, differences in students' tech-savviness, lack of managerial support, data privacy and security, and rapid technology advances (Neumann et al., 2021). The findings emphasize the highly diverse nature of EdTech integration difficulties noticed by the teachers from technical, content, and organizational perspectives.

Professional Development for Nepali K-12 Teachers in Technology Integration

Researchers have particularly highlighted the significance of skills acquired through practice and simulations. The studies conducted by Chang et al. (2023) and Mohamad Hasim et al. (2022) also revealed that all forums, such as workshops, seminars, and practical training sessions, are essential for technical training, addressing issues, and confidence in using technology-integrated instructions. There has been growing concern on the aspect of developing both technical as well as pedagogical skills. Alemdag et al. (2020) further asserted that professional development for embracing digital tools should prepare educators with content knowledge focused on using the tools and the pedagogical content knowledge regarding integrating technology in lesson plan development and classroom management. The approach covers how to design technology-integrated lesson plans, use technology to assess students, and ways to create learning activities that engage students.

As digital tools and resources continue to shape how students acquire knowledge and develop skills, educators must be equipped with the necessary competencies to

effectively leverage these technologies (Barton & Dexter, 2020). Professional development for teachers in technology integration plays a pivotal role in this endeavor, ensuring that educators are prepared to navigate the complexities of the digital age and create engaging, student-centered learning experiences (Bowman et al., 2022). Without proper training and support, even the most cutting-edge educational technologies may fail to reach their full potential (De Vera et al., 2021).

One crucial aspect of professional development for technology integration is hands-on training and experiential learning opportunities. Teachers should have ample opportunities to explore and experiment with various digital tools, platforms, and applications in a supportive and collaborative environment (Chang et al., 2023). Workshops, seminars, and hands-on training sessions can allow educators to develop technical skills, troubleshoot challenges, and gain confidence using technology-enhanced instructional strategies (Mohamad Hasim et al., 2022). In addition to technical training, professional development initiatives should also focus on equipping educators with the pedagogical knowledge necessary to effectively integrate technology into their instructional design and classroom management practices (Alemdag et al., 2020).

Professional development programs should encourage educators to embrace lifelong learning, providing ongoing opportunities for skill development, knowledge-sharing, and exploring emerging trends and best practices (Andrin et al., 2024). Establishing professional learning communities (PLCs) can be a powerful strategy for facilitating continuous professional development in technology integration. The collaborative groups provide a platform for educators to share their experiences, discuss challenges, and learn from one another's successes and failures (Seufert et al., 2020).

Professional development for technology integration should also address the unique needs and contexts of different educational settings. By considering the specific cultural, socioeconomic, and infrastructural factors that shape each learning environment, professional development initiatives can be customized to ensure relevance and effectiveness (Backfisch et al., 2021). Collaboration between educational institutions, technology companies, and industry partners can further enhance professional development opportunities for technology integration (Dexter & Richardson, 2020). The partnerships can provide access to cutting-edge resources, expertise, and real-world applications of technology, allowing educators to stay abreast of the latest developments and best practices (Goulart et al., 2022). Such collaborations can facilitate the exchange of knowledge and insights, fostering a broader understanding of the role of technology in various industries and professions.

Prior Research on K-12 Teachers' Perceptions of EdTech Professional Development

K-12 teachers' perceptions of EdTech professional development in developed nations have been extensively studied, revealing several significant trends. The importance of high-quality professional development for effective technology integration in schools is widely acknowledged, Hennessy et al. (2022) found teachers deemed it essential. Satisfaction levels with current PD offerings, however, show considerable variation. Nazaretsky et al. (2022) reported that a small number of teachers were highly satisfied with their EdTech professional experiences, further highlighting the prevalence of this challenge. Hands-on, subject-specific training is generally preferred over generic workshops. Dolfing et al. (2021) found contextualized professional development more valuable for teachers in integrating EdTech into classroom learning. Williams (2020) also

noted that teachers perceived sustained professional development as more beneficial, highlighting the impact of duration and follow-up support on perceived effectiveness. Online and blended professional development models are gaining positive perception, particularly for flexibility. Bragg et al. (2021) found that teachers considered online professional development effective for EdTech skills development. The findings underscore the complex landscape of teachers' perceptions regarding EdTech professional development, emphasizing the need for targeted, sustained, and practice-oriented approaches.

Summary

This chapter reviewed the literature relevant to integrating EdTech into the instructional practices of K-12 teachers, focusing on developing countries like Nepal. The review explored the conceptual framework grounded in the TAM and TPACK model. These provide insights into technology adoption and effective integration in educational settings. The literature review examined four key areas related to K-12 teachers and EdTech integration. These areas encompassed teachers' attitudes toward EdTech use in instructional practices, perceived opportunities for integrating EdTech, challenges faced in technology integration, and perceptions of areas requiring additional training or support for effective technology integration. The review considered these aspects in the context of developing countries, with particular attention to the Nepali educational landscape. The following chapter describes the research methods used to conduct the study.

Chapter 3

Methods

The purpose of this study was to describe how Nepali K-12 teachers' attitudes toward using EdTech in instructional practices. This chapter includes information about the research design, setting, sampling procedures, instruments, data collection procedures, data analysis and synthesis, reliability and trustworthiness, researcher's role, and limitations. The chapter concludes with a summary.

Research Design

This research used a qualitative methodology. Qualitative methodology is a research approach that focuses on understanding phenomena through the detailed exploration of participants' perspectives and experiences (Creswell & Poth, 2018). It involves collecting non-numeric data, such as interviews, observations, and textual analysis, to gain in-depth insights into people's thoughts, feelings, and behaviors. This methodology is particularly useful for exploring complex issues, capturing the richness of participants' experiences, and generating new theories or hypotheses (Creswell & Poth, 2018). Techniques commonly used in qualitative research include case studies, ethnography, grounded theory, and phenomenology. The data collected are typically analyzed through thematic analysis or content analysis to identify patterns and themes that help explain the phenomena under investigation (Creswell & Poth, 2018).

A qualitative methodology was appropriate for this study as this approach allows for an in-depth exploration of the teachers' subjective experiences and contextual factors that influence their perceptions. Since the integration of EdTech is a complex process influenced by individual, institutional, and cultural factors, qualitative methods enabled

the researcher to capture the complexity and nuances of these influences. Through interviews, the researcher gathered rich, detailed data that provided a comprehensive understanding of the teachers' attitudes, beliefs, and experiences, which would be difficult to achieve through quantitative methods alone (Merriam & Tisdell, 2016).

Qualitative methodology was more appropriate for this study than a quantitative or mixed methods approach due to the exploratory nature of the research questions and the need for detailed, contextual understanding. Quantitative methods, which rely on numerical data and statistical analysis, were less suited for capturing the depth and complexity of individual experiences and perceptions (Maxwell, 2013). While mixed methods combine qualitative and quantitative approaches, they require extensive resources and time and may not add significant value given the primary focus on understanding nuanced perceptions (Patton, 2015). A purely qualitative approach ensured a thorough and focused investigation into the teachers' lived experiences, allowing for the development of a rich, detailed narrative that can inform policy and practice in a meaningful way (Patton, 2015).

This study employed a phenomenological design. Phenomenology seeks to explore the essence of experiences, which can be more abstract and less focused on practical descriptions (Neergaard et al., 2009). Phenomenology was an appropriate design for this study because it aims to explore and deeply understand the lived experiences and perceptions (Neergaard et al., 2009) of Nepali K-12 teachers as they integrate EdTech into their instructional practices. The study's purpose aligns with phenomenology's focus on capturing the essence of participants' subjective experiences, attitudes, and the meaning they attribute to their challenges and opportunities (Neergaard et al., 2009) with

EdTech. Phenomenology allows for a detailed exploration of the teachers' perspectives, attitudes, and training needs, which are essential for understanding the broader implications of EdTech integration in Nepal's unique educational and cultural context.

The phenomenological design was more appropriate for this study than other qualitative designs like case study or narrative design because it focuses on capturing the shared lived experiences and perceptions of Nepali K-12 teachers integrating educational EdTech into their instructional practices (Neergaard et al., 2009). While a case study design provides an in-depth investigation of a single case or a few cases, it might be too narrow for understanding the broader perceptions of multiple teachers across various contexts (Neergaard et al., 2009). Narrative design emphasizes the stories of individuals, which can provide detailed personal accounts but may not offer the broader descriptive overview needed for this study (Neergaard et al., 2009). Figure 1 displays the research design for this study.

Figure 1

The Current Study's Research Design
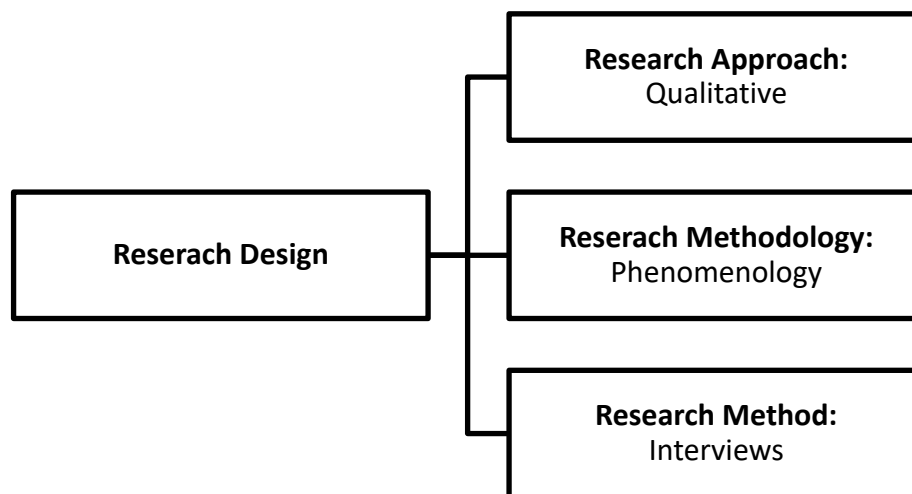
Setting

The research was conducted through semi-structured interviews using Zoom, a video conferencing platform. This setting was selected because participants were located in Nepal, making virtual interviews more practical than face-to-face interviews that would have required international travel.

Sampling Procedures

The general population for this study was current K-12 teachers in Nepal with current or prior experience with online teaching. The researcher employed purposive and convenience sampling based on the researcher's understanding of the target group. A Participant Recruitment Survey (see Appendix A) was used to identify suitable participants for the study. The survey was posted on the researcher's Facebook and LinkedIn newsfeeds and in relevant groups and pages to target suitable interview candidates with a Social Media Post for Participant Recruitment (see Appendix B). It was

reshared by the researcher's network of peers. These platforms are chosen for their

extensive reach and active user base among professionals, including educators.

Instruments

In this study, the researcher utilized a semi-structured interview to collect rich,

qualitative data from participants following guidance from Merriam and Tisdell (2016).

This interview protocol (see Appendix C) was crafted through a careful review of

relevant literature. The semi-structured nature of the interviews allowed for flexibility,

enabling the researcher to probe deeper into participants' responses and adapt questions to

suit the flow of the conversation (Merriam & Tisdell, 2016). This approach ensured that

while a consistent set of core questions is addressed across all interviews, there was room

for participants to share unique insights and experiences (Merriam & Tisdell, 2016).

Table 1 below includes interview questions in this study.

Table 1

Semi-structured Interview Questions

Question	Rationale for Question
How do you feel about using educational technology in your teaching practices?	To answer research question one
In what ways do you think educational technology impacts teaching and learning outcomes?	To answer research question one
What opportunities do you see for integrating technology into your teaching practices?	To answer research question two
How do the school environment and resources support technology integration?	To answer research question two
What challenges do you face in using technology in your classroom?	To answer research question three
How does access to resources and training affect your ability to use technology effectively?	To answer research question three
What areas of training or support would help you feel more confident in using educational technology?	To answer research question four
How effective have the existing training programs been in meeting your needs?	To answer research question four

Data Collection Procedures

An Institutional Review Board (IRB) request to Baker University was submitted on December 4, 2024 (see Appendix D) and approved on December 5, 2024 (see Appendix E). The Social Media Post for Participant Recruitment (see Appendix B) was posted to the researcher's Facebook and LinkedIn newsfeeds and in relevant groups and pages, to target members of the population and identify suitable interview candidates.

The researcher gained prior approval from group and page moderators prior to posting the announcement. The post included a link to a Participant Recruitment Survey (see Appendix A). This method aims to gather a diverse and representative sample of teachers from various regions, school types, and levels of experience. The social media post was posted for 2 weeks on social media groups and LinkedIn.

The Participant Recruitment Survey was open through December 7, 2024, collecting 25 willing participants. An Interview Invitation Email and Informed Consent Form (Appendix F) was sent to those qualified and willing to participate to ascertain and verify interest in interviewing and available days and times. Willing participants were asked to sign the consent form before the interview. Seventeen individuals responded to the email inquiry. Thirteen individuals completed the consent form and participated in the interviews.

Participants were informed of the following at the beginning of the interview about the purpose of the study, the process of informed consent, the participant's ability to end the interview at any time, their ability to skip any questions they did not wish to answer, that the interview would be recorded, that responses were be kept confidential, and that recordings would be deleted after the transcripts were finalized. Interviews began on December 10, 2024, and continued through December 26, 2024, and lasted no longer than 45 minutes.

Data Analysis and Synthesis

The following research questions guided this study:

RQ1. What are Nepali K-12 teachers' attitudes toward educational technology use in instructional practices?

RQ2. What do Nepali K-12 teachers perceive as opportunities to integrate educational technology into their instructional practices?

RQ3. What do Nepali K-12 teachers perceive as challenges to integrating educational technology into their instructional practices?

RQ4. What are Nepali K-12 teachers' perceptions of the areas where they need additional training or support to effectively integrate educational technology into their instructional practices?

Following the interviews, the recordings were transcribed using Google Translator and Chat GPT. The researcher carefully reviewed each transcript, comparing it with the audio recording to ensure accuracy. To enhance credibility, which refers to the truthfulness of the findings (Lincoln & Guba, 1985), the researcher used member (Participant 4 & Participant 11) checking by sharing preliminary results with the interview participants for their feedback and validation. The transcriptions were then coded using the qualitative data analysis software NVivo.

To analyze the semi-structured interview data collected from teachers in Nepal, the researcher employed Braun and Clarke's (2006) thematic analysis method. This qualitative approach is systematic and involves several distinct phases, ensuring a thorough and replicable process. Initially, the researcher will transcribe the interviews verbatim, allowing for immersion in the data. This step is crucial for familiarizing oneself with the depth and breadth of the content. Next, the researcher generated initial codes by systematically coding interesting features across the entire dataset. Coding was data-driven, meaning codes were generated directly from the interview content rather than fitting data into pre-existing categories (Braun & Clarke, 2006).

Following Braun and Clarke (2006), once the initial coding was complete, the researcher proceeded to identify themes by collating codes into potential themes and gathering all relevant data extracts within these themes. A theme in thematic analysis captures something significant about the data in relation to the research question and represents a patterned response or meaning within the dataset. This phase involved a recursive process of reviewing and refining themes, ensuring they were coherent, consistent, and distinctive. Themes were reviewed at two levels: firstly, the coded data extracts, and secondly, the entire dataset. This ensured that the themes accurately reflected the data as a whole and that there is a clear relationship between the themes and the data (Braun & Clarke, 2006). The final phases involved defining and naming themes and presenting the findings and interpretation in Chapters 4 and 5 Additionally, the researcher conducted member checks by sharing preliminary findings with participants to validate the interpretations and enhance the credibility of the results. Following Braun and Clarke (2006), the researcher defined and refined each theme, identifying the essence of what each theme was about and determining what aspect of the data each theme captured. This involved detailed analysis and generating clear definitions and names for each theme. The final analysis was written up, including examples and data extracts to illustrate each theme.

Reliability and Trustworthiness

In qualitative research, reliability refers to the consistency and dependability of the research findings (Lincoln & Guba, 1985). Following Lincoln & Guba (1985), to ensure reliability in the study, documentation of the research process was maintained, including interview guides, transcription methods, coding schemes, and decision-making

processes during data analysis. This audit trail allows other researchers to follow the same procedures and potentially replicate the study (Lincoln & Guba, 1985). The researcher also compared the findings of the study's thematic analysis to the published literature.

Trustworthiness in qualitative research encompasses credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). To enhance credibility, which refers to the truthfulness of the findings (Lincoln & Guba, 1985), the researcher used member checking by sharing preliminary results with the interview participants for their feedback and validation. This process ensured that the interpretations accurately reflected the participants' views. Transferability, the extent to which findings can be applied to other contexts, was addressed by providing rich, thick descriptions of the research context and participants, enabling readers to determine the applicability of the findings to similar settings (Lincoln & Guba, 1985).

Researcher's Role

In this study, the researcher took on several roles, involving the design, data collection, analysis, and dissemination of findings. At the outset, the researcher clearly defined the study's objectives, which included understanding teachers' confidence and preparedness in using EdTech and identifying the challenges and opportunities they face. This involved a thorough literature review to frame the study within existing research and to identify gaps that the study aimed to fill.

During the data collection phase, the researcher acted as an interviewer, engaging in semi-structured interviews with K-12 teachers in Nepal. This role required the researcher to develop a rapport with participants to facilitate open and honest

communication (Creswell & Poth, 2018). Ethical considerations were paramount, including obtaining informed consent, ensuring confidentiality, and being sensitive to cultural contexts. The researcher was aware of their positionality and potential biases, striving to create a neutral and respectful interview environment.

In the data analysis phase, the researcher assumed the role of an analyst, employing Braun and Clarke's (2006) thematic analysis method. This involved immersing in the data through transcription and repeated readings, coding the data systematically, identifying and refining themes, and ensuring that the analysis was both rigorous and reflective of the participants' perspectives. The researcher maintained an audit trail and engaged in reflexivity, documenting decisions and reflections to enhance the study's reliability and trustworthiness. The researcher also used member checking to validate the findings with participants, ensuring the interpretations were accurate and credible.

Finally, as a disseminator of findings, the researcher was responsible for writing up the study in a clear and comprehensive manner, providing detailed descriptions, and using data extracts to illustrate key themes (Creswell & Poth, 2018). Throughout this process, the researcher remained committed to ethical standards, cultural sensitivity, and methodological rigor, ensuring that the study contributes valuable insights into the integration of EdTech in Nepali K-12 education.

Limitations

Limitations in qualitative research refer to potential weaknesses or constraints that may impact the study's findings and generalizability (Creswell & Poth, 2018). These limitations can stem from the research design, methodology, participant selection, or

contextual factors. Acknowledging limitations is crucial as it provides a transparent account of the study's scope and helps in understanding the context within which the findings should be interpreted (Creswell & Poth, 2018).

One limitation of this study was its reliance on semi-structured interviews as the primary data collection method. While interviews are valuable for gaining in-depth insights into participants' perceptions, they are subject to biases such as social desirability bias, where participants may provide responses they think the interviewer wants to hear (Creswell & Poth, 2018). Additionally, the quality of the data depends on the participants' willingness and ability to articulate their experiences and thoughts comprehensively. This reliance on self-reported data might lead to incomplete or inaccurate representations of teachers' actual practices and challenges with EdTech integration.

Another limitation was the potential for researcher bias during data analysis (Creswell & Poth, 2018). In thematic analysis, the researcher's interpretation plays a significant role in identifying and defining themes. Despite efforts to maintain objectivity, personal biases and preconceptions can influence the coding process and theme development (Creswell & Poth, 2018). This subjectivity can affect the reliability and validity of the findings. To mitigate this, the researcher employed strategies such as maintaining an audit trail, engaging in reflexivity, and using member checking. However, these strategies may not completely eliminate the influence of researcher bias (Creswell & Poth, 2018).

A further limitation pertains to the transferability of the study's findings. The study focused on K-12 teachers in Nepal, where cultural, economic, and educational factors unique to the region influence the integration of EdTech. While the study

provided rich, contextualized insights, these findings may not be applicable to other settings with different educational systems or cultural dynamics. Providing thick descriptions of the study context helped mitigate this limitation to some extent, but the inherent specificity of qualitative research means that findings are often not universally applicable (Creswell & Poth, 2018).

Summary

This chapter outlined the methodology used for this research study. The chapter presented the research design, setting, instruments, sampling procedures, data collection and data analysis procedures. Additionally, the reliability and trustworthiness of the study was reviewed, as well as the researcher's role and limitations of the study. Next, Chapter 4, which presents the results of the thematic analysis. This chapter details the identified themes, supported by data extracts from the interviews, and provides an in-depth examination of how Nepali K-12 teachers perceive their use of EdTech.

Chapter 4

Results

The purpose of this study was to describe Nepali K-12 teachers' attitudes toward using EdTech in instructional practices. This study aimed to identify the opportunities and challenges in integrating EdTech into their instructional practices. Semi-structured interviews were conducted with 13 participants to carry out the study. This chapter presents the results that emerged from conducting the data collection and data analysis procedures described in Chapter 3. The following section is a description of the participants' demographics. Next, the themes that emerged to address research questions 1 through 3 are presented.

Participant Demographics

The study consisted of thirteen participants, representing a diverse range of educational backgrounds and teaching experiences. While specific ages were not collected, the gender distribution included eight females and five males. All participants were based in Kathmandu, Nepal, providing a perspective on the integration of educational technology (EdTech) in Nepal.

In terms of academic qualifications, the majority of participants (nine) possessed at least one master's degree, indicating a high level of formal education, while the remaining four participants held bachelor's degrees. Their teaching experience varied significantly, ranging from four to thirty-four years, reflecting both early-career and veteran educators. When it came to EdTech-specific teaching experience, participants reported between three to six years, suggesting that the adoption of technology in education had been a relatively recent development for many.

Participants exhibited varying levels of familiarity with technology. Some reported extensive use of technology in their personal lives but limited experience incorporating it into their teaching practices. Conversely, others described themselves as having only basic proficiency with both EdTech and general technology use in personal contexts. Despite these differences, all participants had engaged with common online teaching platforms, specifically using Zoom for virtual instruction. Additionally, Google Slides and Microsoft PowerPoint were the primary tools employed for creating and delivering instructional content, indicating a reliance on widely accessible and user-friendly software for facilitating online learning. Table 1 indicates the demographic characteristics of the individual study participants.

Table 1

Participant Demographics

	Education	Years of teaching experience	Years using EdTech	EdTech used	School provides	How often technical issues disrupt lessons
P1	Bachelor's	8	4	Internet, Zoom, PowerPoint	"Old laptops, very slow internet"	Daily
P2	Bachelor's	7	3	Zoom, Google Slides, PowerPoint	"Old laptops and patchy Wi-Fi"	Daily
P3	Master's	7	4	Zoom, PowerPoint	"Internet, some old laptops"	Daily
P4	Master's	34	5	Smartboard, Zoom, PowerPoint	"Internet, old laptops"	Daily
P5	Master's	9	4	Zoom, Google Slides, PowerPoint	"Internet, but it is slow"	Daily
P6	Master's	11	5	Zoom, Google Classroom	"Laptops, although they are old"	Daily
P7	Master's	6	6	Zoom, Google Slides, PowerPoint	"Laptops, Internet"	Daily
P8	Master's	10	5	PowerPoint, Zoom	"Internet"	Daily
P9	Bachelor's	4	4	PowerPoint, Zoom	"Internet, some old laptops"	Daily
P10	Master's	6	5	Zoom, Google Classroom, Whiteboards"	"Internet, laptop or monitors"	Daily
P11	Master's	10	7	Zoom, Google Slides, PowerPoint	Laptops, Internet	Daily
P12	Master's	8	6	Zoom, Google Slides, PowerPoint	Laptops, Internet	Daily
P13	Bachelor's	7	5	Zoom, Google Classroom	"Old laptops"	Daily

Emerging Themes from Research Question 1

RQ1 was focused on Nepali K-12 teachers' attitudes toward the use of educational technology in instructional practices. The findings revealed a spectrum of responses, categorized into positive perceptions, challenges and barriers, and mixed feelings. While many teachers appreciated the potential of technology to enhance student engagement and improve learning outcomes, they also faced significant obstacles, such as inadequate training, outdated equipment, and frequent technical issues. These challenges contributed to a blend of excitement and frustration, with teachers expressing both enthusiasm for the possibilities of technology and anxiety over their ability to implement it effectively. The results underscore the need for better support systems, including training and reliable infrastructure, to help teachers integrate educational technology confidently into their classrooms.

Positive Perceptions

Participants believed that educational technology could enhance student engagement and improve learning outcomes. P12 remarked, "It is exciting to try new ways to engage students," while P13 echoed, "It is exciting to see how it can make learning more engaging." P5 noted, "It seems like a powerful way to make lessons more interactive and engaging for students," and P8 added, "I think educational technology can improve learning outcomes by making lessons more dynamic and helping students stay engaged." P4 highlighted how technology broadened learning opportunities, stating, "Using search technology was better so we can find more resources." Similarly, P7 emphasized, "It helps to explain complex ideas in a simpler way." These responses

indicate that participants viewed technology as a tool to make lessons more engaging, interactive, and resource-rich, thereby promoting effective learning.

Challenges and Barriers

Participants faced significant challenges in using technology due to inadequate training and outdated equipment. Technical issues frequently disrupted lessons, leading to frustration and anxiety. P1 shared, "Technical issues can be frustrating… it can be discouraging when technology doesn't work." P13 admitted, "Since I am not very experienced, I sometimes feel overwhelmed… it can be challenging to ensure it is used effectively without proper training." Similarly, P3 stated, "Although I see its potential, I feel nervous and unsure about effectively integrating it into my lessons… it can feel overwhelming without enough preparation and support."

P8 noted, "It can be challenging to ensure it [the technology] is used effectively without proper training… I feel overwhelmed sometimes," and P9 described feeling "nervous" due to a lack of experience: "Since I don't have much experience, I sometimes feel unsure about how to use it effectively." The participants consistently linked their negative feelings to a lack of training and technical support.

Mixed Feelings

RQ1 focused on Nepali K-12 teachers' attitudes toward educational technology use in instructional practices, revealing a balance of optimism and apprehension. While teachers acknowledged the potential benefits of technology, they simultaneously expressed uncertainty and frustration. P1 said, "I have mixed feelings about it. Sometimes technology makes things easier, like when using Google Slides, but technical issues can be frustrating. I feel excited about it, but I still need to build more confidence."

P11 stated, "Using educational technology makes me feel both excited and nervous. It is exciting to try new ways to engage students, but since I don't have much experience, I sometimes feel unsure about how to use it effectively."

P2 echoed this duality, "I feel excited but a little nervous about using educational technology in my teaching. I know it has the potential to enhance learning, but I need to learn more about how to use it effectively." Similarly, P6 mentioned, "I feel a mix of excitement and hesitation when using technology in the classroom. It is exciting to see how it can make learning more engaging, but since I am not very experienced, I sometimes feel overwhelmed."

Emerging Themes from Research Question 2

RQ2 was focused on what Nepali K-12 teachers perceive as opportunities to integrate educational technology into their instructional practices. The participants reported that they perceived two opportunities associated with the integration of educational technology into their lessons. The first opportunity was for the participants' schools to provide better technology. The participants reported that their schools provided internet access, which they characterized as "slow," and laptops, which they described as "old" (see Table 1). Without these tools, the participants would have had no opportunity to integrate technology into their lessons. However, an opportunity existed for the schools to provide newer, more effective resources. The second opportunity that the participants identified was for educational technology to be used to develop more engaging lessons for their students. Thus, the themes that emerged to address RQ2 were: schools providing technologies, and creating engaging lessons.

Schools Providing Technologies

The participants reported that the technology they integrated into their lessons was provided by their schools, including internet access and laptops. However, the participants noted that these resources were often outdated, and that the outdated nature of the resources contributed to the technical issues that disrupted instruction on a daily basis. P1 said, "Our school provides some support, like internet access and devices. However, these devices are sometimes outdated. It would be better if the administration encouraged the use of new technologies." P1 reported that the school provided support, but he added that an opportunity existed to provide more effective support in the form of newer technologies. Similarly, P10 said, "My school provides moderate support, such as internet access, basic devices, and occasional training sessions. However, there is room for improvement in terms of providing more advanced tools," including better internet access and devices. P13 agreed, saying, "Our school provides basic resources like internet and projectors, but advanced tools and training are limited. The administration is supportive, but we still need more updated resources." According to P13, an opportunity existed to provide teachers with more up-to-date resources, including newer laptops and faster internet. However, P6 provided a different perspective, indicating that the ability of schools to provide faster internet access might be limited:

> I teach in a private school, and they have more money than public schools, and all the teachers and administration also have the same mindset. So, we have more influence on technology than others [other teachers] in our area. We also do meetings with guardians and everyone to warn parents about misuse of technology as well. We don't have good internet because of Nepal's condition. Even at home, sometimes videos are slow, and students can't get into the class,

and that delays our study. School tries to give better internet or resources, but they

can only do so much.

P6 indicated that Nepal's infrastructure might not support fast, reliable internet,

regardless of whether school administrators were willing and able to pay for upgraded

connections. Thus, while there may be an opportunity for schools to provide more

advanced resources, this opportunity was limited by the condition of the infrastructure.

P6 taught in a private school, which he described as having more resources than public

schools. P8, a teacher in a public school, corroborated P6's report: "School

administration wants to help, but budget and government policy are lacking in providing

resources. Government schools do not have as many resources as private." Infrastructure

might therefore be a barrier for all schools in pursuing opportunities to provide more

advanced technologies, and lack of funding was likely to be an additional barrier for

public schools.

Creating Engaging Lessons

The participants perceived the educational technology as giving them the

opportunity to create more engaging lessons for their students. P10 explained the

opportunities the technology had offered his math class:

Educational technology greatly enhances teaching and learning outcomes. It

allows me to provide visual representations of math concepts, use online quizzes

for immediate feedback, and engage students with interactive activities. Students

seem to enjoy learning more and participate actively when technology is used.

The technology enabled P10 to engage his math class through visuals, immediate

feedback, and interactive activities, with the result that students' enjoyment of learning

was enhanced. P2 also reported perceived opportunities for engaging students more effectively: "I see opportunities to use technology to create engaging lessons, track student progress, and communicate with students and parents effectively." P3 agreed from his perspective as a social studies teacher: "There are many opportunities to integrate technology, like using videos, digital presentations, and interactive tools to make social studies more engaging." Like P10, P3 saw the potential for using the technology to engage students through interactive lessons involving videos and other visual representations. P5, another math teacher, agreed with other participants in describing opportunities to use the technology to make lessons more engaging: "Educational technology can positively impact teaching and learning outcomes by making lessons more interactive and visually engaging. For example, using virtual math tools can help students understand abstract concepts more easily." P5 noted that the technology could contribute not only to student engagement, but to students' comprehension of abstract concepts. P5 stated of specific tools that might be used to make instruction more effective:

> There are many opportunities to integrate technology, such as using interactive whiteboards, online math resources, and apps for problem-solving. Post-COVID, there are more tools and support available, and I see a chance to use these tools to create engaging lessons.

Like other participants, P5 described technology as potentially engaging because it was interactive. P13 agreed, saying, "There are many opportunities, like using virtual labs or interactive science apps, to enhance teaching." The participants perceived the interactive

nature of the educational technology as making it a powerful tool for engaging students and enhancing learning.

Emerging Themes from Research Question 3

RQ3 was focused on what Nepali K-12 teachers perceive as challenges to integrating educational technology into their instructional practices. The participants identified four challenges. The most frequently mentioned challenge was a need for more training. Participants believed that their lack of training in how to use the technology made integrating it into their lessons more challenging. The second challenge, the learning curve, was also related to a lack of training. When participants did not receive training to use the technology, they had to teach themselves to use it, and this process resulted in a steep learning curve. The third challenge was technical issues such as connectivity failures. Technical issues interrupted instruction "every day" and "all the time," according to the participants (see Table 1). The fourth challenge was ensuring technology access for all students. Some participants' schools did not have enough technology for all students to have adequate access to a device. The themes that emerged to address RQ3 were therefore: lack of training, learning curve, technical issues, and ensuring technology access for all students.

Lack of Training

The participants reported that their most significant challenge was a lack of adequate training to use the educational technology to its fullest potential. Because of the lack of training, the participants struggled to use the technology, and they experienced anxiety associated with their attempts to use it without proper guidance. P1 said, for example, "Training would have helped a lot. If there had been practical training, I could

use technology much more effectively now." It may be noted that P1 indicated a need for practical training, which he defined in a different interview response as "hands-on training" to teach instructors how to use the technology. P2 agreed, saying, "More support in terms of training and tools would be helpful. The administration encourages technology use, but there's room for improvement in providing structured guidance." By "structured guidance," P2 meant formal, dedicated training, which he also described as "hands-on." Similarly, P3 said, "Access to proper training is essential for me to use technology effectively. Without training, I often feel unprepared and hesitant to try new tools in the classroom." P3 indicated that training was necessary, and that without it, he felt anxiety about using the technology ("unprepared and hesitant"). Asked what kind of training he believed would benefit him, P3 added, "I would benefit from basic training on platforms like Google Classroom, interactive tools for social studies, and creating digital lesson plans. Step-by-step guidance and examples specific to my subject would build my confidence." P3 wanted training that would be specific to his subject and to the technology to which he had access, involving steps and examples. P4 wanted training in specific technologies:

> Padlet, Google Classroom training, they [students] need to learn how to search effectively, learning-related apps, AI can be integrated in the learning as well, we need recognized trainings for that as well. Grammarly as well. We would be able to do lots of stuff with them. How to use them effectively without losing the value of individual personality of the teacher. Lots of students just copy and paste from the learning apps, and it is losing creativity.

In addition to requesting training in the specific technologies to which he had access, P4 wanted training in how to harness technology tools for learning without students using those tools to complete their work for them and eliminate their own initiative and creativity from the work product. P5 stated that he had received some training but that he needed more: "The training programs I've attended so far have been somewhat useful but not very effective in addressing my specific needs as a math teacher. More detailed and hands-on programs would be more beneficial." Asked to elaborate on the type of training he needed, P5 added, "I would benefit from training focused on interactive math tools, creating digital lessons, and learning to use online platforms like Google Classroom effectively. Step-by-step guides and subject-specific examples would boost my confidence." As with other participants, P5 associated training with confidence in using the technology, and he expressed a need for subject-specific, practical, hands-on training in the tools to which he had access. P6 also identified a lack of training as a challenge: "Access to proper resources and training would have made a big difference. If I had received hands-on training, I would have been more confident and effective in using technology." P7 agreed, saying, "One major challenge I faced was understanding how to use online platforms during COVID. A lack of training made it difficult for me to teach effectively." P7 also expressed that the training the teachers had received was not adequate:

> The existing training programs have been helpful, but they are not enough. Most of them are too general and don't focus on the practical skills that I need for my classroom. The training is not sufficient for now, and we need more hands-on, practical training for integrating apps and learning technology.

Most participants faced the challenge that the previous training they had received on the technology was too general. It lacked step-by-step, hands-on guidance and subject-specific training for optimizing the use of the technology. One result of this inadequate training was that the participants did not feel capable of using the technology to its fullest potential. Another result was that participants experienced anxiety associated with using the technology.

Learning Curve

Participants who did not receive adequate training in using the educational technology had to teach themselves how to use it. The participants reported a steep learning curve associated with this self-teaching. They struggled to learn to use the technology, and they did not feel satisfied that they had taught themselves adequately. P1 said of the learning curve, "I have to learn many things on my own, which isn't always easy." P2 used similar language, stating, "I had to figure things out on my own, which was overwhelming at times." P11 agreed that learning to use the technologies without training was difficult, saying, "One major challenge I faced was understanding how to use online platforms." P5 reported a similar experience: "The challenges I faced included a lack of familiarity with the tools." P7 said of the learning curve, "The major challenge I faced was understanding how to use the technology . . . access to training would have made a big difference." P8 discussed how teachers needed support to learn how to use the technology effectively:

> The biggest challenges were adapting quickly to new platforms. Teachers need to
> know how to troubleshoot issues, and how to integrate engaging items in the
> classroom would be good also. I hear how advanced technology has been in other

countries and how they use it in other countries' education systems. We don't

have even one IT support in one school. Or any school. Not even in the city. If we

had one IT person in each school, that would be amazing. We can learn from

them. We don't even need them full-time; two weeks' training would be fruitful.

P8 reported that having a qualified trainer would be beneficial, but that such trainers were

often unavailable. The solution P8 proposed was that the trainer should be made available

to the teachers on a part-time basis. Overall, the participants indicated that the learning

curve with the new technology was steep. They had difficulty learning to use the

technology on their own, without adequate training. The solution the participants

requested was additional training. However, as P8 noted, a lack of qualified trainers may

have been a barrier to providing high-quality training.

Technical Issues

The participants indicated that they struggled with technical issues such as

connectivity problems on a daily basis. These issues disrupted instruction. P1 said of the

challenge presented by technical issues, "The biggest issue has been the lack of consistent

internet, which often disrupts lessons." P10 agreed, stating, "The biggest challenges I

faced included connectivity issues." P11 said of the effect of technical issues on teaching,

"Technical issues made it difficult for me to teach effectively." P2 agreed that technical

issues disrupted instruction: "Sometimes technical issues made it hard to maintain a

smooth teaching flow." P13 described technical issues as his most significant challenge,

saying, "The biggest challenges I faced were technical difficulties." P13 said of the

nature of the technical issues he faced, "Sometimes the internet would not work properly,

and I didn't know how to troubleshoot issues with online platforms." The participants

struggled with technical issues, including connectivity issues and issues with online platforms that they did not know how to troubleshoot. These technical issues frequently disrupted instruction.

Ensuring Technology Access for All Students

Participants reported that they faced a challenge in getting all of their students access to devices and the internet. P10 reported this challenge in saying, "Not all students had access to devices or stable internet, which made it hard to ensure equitable learning." P10 described the consequence of the access challenge as inequitable learning, in which not all students had access to learning technology. P3 stated that he faced a challenge in, "Ensuring all students had access to the necessary devices and internet." P8 described equitable access as one of the most significant challenges he faced: "The biggest challenges were adapting quickly to new platforms and ensuring all students had access to devices and internet." Being unable to get access to learning technologies for all students meant that participants could not teach all their students equally or equitably, a challenge that could result in some students falling behind.

Emerging Themes from Research Question 4

RQ4 was focused on Nepali K-12 teachers' perceptions of the areas where they need additional training or support to effectively integrate educational technology into their instructional practices. The participants reported one area where they needed additional training and support. They indicated that they needed practical, hands-on training in using the educational technology in ways that promoted learning in their specific subjects. Thus, the theme that emerged to address RQ4 was: hands-on training.

Hands-on Training

The participants reported that they needed training in the educational technology, and they reported that the specific kind of training they needed was practical and hands-on. P1 said of the need for training, "I believe practical training would be the most useful. If I had the chance to practice hands-on with the tools, my confidence would grow." P1 noted that the training should be both practical and hands-on. P10 said, "More subject-specific, hands-on training would better meet my needs and help me feel more confident in integrating technology into my teaching," adding that the training should be not only hands-on, but subject-specific. P12 contrasted the training he had received with the training he needed: "The existing training programs have been somewhat helpful, but they are not enough. Most of them are too general and don't focus on practical skills that I need for my classroom." P12 described the previous training as too general, and he reported that he needed more practical training to succeed in integrating educational technology. P13 provided corroboration of P12's view:

> The existing training programs have been somewhat helpful but not sufficient. They are too theoretical and don't provide enough hands-on practice. I would benefit from training on creating interactive lessons, troubleshooting common issues, and using specific tools for science teaching, like virtual labs or simulations.

P13 described the subject-specific, hands-on practice that he believed would be most beneficial, saying that previous trainings had been too theoretical. P2 agreed with P13, saying, "The training programs I have attended have been somewhat helpful but not entirely effective. They often focus on theory without enough practical, hands-on experience." Asked what kind of practical, hands-on training would be beneficial, P2

responded, "Training on how to use specific tools and strategies for integrating technology into lessons would make me more confident. Support in troubleshooting and adapting to new tools would also be helpful." P3 agreed, saying, "The training programs I've attended so far were basic and not very effective for my specific needs. More tailored and hands-on training would help me feel better prepared to use technology in teaching." P4 added that for most teachers, training should be in-person rather than through a webinar:

> Webinar training is okay for me, but most of the teachers need hands-on training. They do not understand instructions and how to use the device. It depends on teachers' confidence and experiences. They need to be used to using the device and how to use it before jumping into apps.

Teachers might struggle to learn from webinars when they were not yet accustomed to using devices, P4 indicated. The teachers had received some basic, theoretical training, they reported. However, to use the educational technology to its fullest potential, they required additional, hands-on, practical training. Training content should include basic troubleshooting, as well as practical, subject-specific tips for integrating technology into instruction effectively.

Summary

Four research questions were used to guide this study. RQ1 was: What are Nepali K-12 teachers' attitudes toward educational technology use in instructional practices? The themes that emerged during data analysis to address RQ1 were mixed feelings, positive perceptions, and challenges and barriers. RQ2 was: What do Nepali K-12 teachers perceive as opportunities to integrate educational technology into their

instructional practices? The themes that emerged to address RQ2 were schools providing technologies, and creating engaging lessons. RQ3 was: What do Nepali K-12 teachers perceive as challenges to integrating educational technology into their instructional practices? The themes that emerged to address RQ3 were lack of training, learning curve, technical issues, and ensuring technology access for all students. RQ4 was: What are Nepali K-12 teachers' perceptions of the areas where they need additional training or support to effectively integrate educational technology into their instructional practices? The theme that emerged to address RQ4 was hands-on training. Chapter 5 includes discussion, interpretations, and recommendations based on these findings.

Chapter 5

Interpretation and Recommendations

The purpose of this study was to describe how Nepali K-12 teachers' attitudes toward using EdTech in instructional practices. This study aimed to identify the opportunities and challenges in integrating EdTech into their instructional practices. This chapter presents the discussion and interpretation of findings as reported in chapter four of this dissertation. The chapter presents the study summary, research questions, review of methodology, major findings, conclusions, implications for action and recommendations for future studies are discussed.

Study Summary

This section of the chapter provides a summary of the study. It begins with an overview of the problem, followed by the purpose statement and the research questions. The methodology used to conduct the study is then reviewed. Finally, the section concludes with an overview of the major results of the study.

Overview of the Problem

The problem addressed in this study was a comprehensive understanding of the EdTech landscape from the perspective of teachers in Nepal, which poses a substantial challenge to the country's education system (Khanal, 2023; Kunwar et al., 2020). In addition, the absence of insights into the perceptions and preparedness of Nepali teachers regarding the utilization of EdTech further exacerbates the problem. Therefore, understanding Nepal's K-12 teachers' attitudes could be crucial for successfully adopting technology in classrooms. The lack of such knowledge could pose a risk of implementing initiatives that are unlikely to align with the needs and preferences of the teaching

community (Srivastava, 2023a). A review of the empirical literature shows the possible risks of adopting technology initiatives that do not align with the teachers' needs and preferences (Khanal, 2023). However, no research exists that analyzes the qualitative reactions concerning the integration of EdTech in instructional practices among Nepal's K-12 teachers. The absence of insights into the perceptions and preparedness of Nepali teachers regarding the utilization of EdTech further exacerbates the problem. Understanding educators' attitudes, beliefs, and skill levels is crucial for successfully implementing technology in classrooms (Khanal, 2023). Without this knowledge, there is a risk of implementing initiatives that may not align with the needs and preferences of the teaching community (Srivastava, 2023b). Additionally, without addressing the specific challenges and concerns that Nepali teachers may have incorporating technology, there remains a potential for resistance or ineffective use of these tools. Therefore, bridging the gap in the literature regarding the availability of EdTech and the perceptions of Nepali teachers is essential for developing targeted interventions that can genuinely enhance the educational landscape in the country (Srivastava, 2023a).

Purpose Statement and Research Questions

The purpose of this study was to describe how Nepali K-12 teachers' attitudes toward using EdTech in instructional practices. This study aimed to identify the opportunities and challenges in integrating EdTech into their instructional practices. The advent of EdTech has presented educators with a unique opportunity to revolutionize teaching and learning, and it was paramount to ascertain the perceptions and readiness of Nepali teachers to embrace this transformative pedagogical shift (Khanal, 2023; Srivastava, 2023a). The study attempted to determine what teachers perceive as

opportunities to integrate EdTech into their instructional practices and what they perceive as challenges to integrating EdTech into their instructional practices. This study also explored Nepali K-12 teachers' perceptions of the areas where they need additional training or support to effectively integrate EdTech into their instructional practices.

RQ1

What are Nepali K-12 teachers' attitudes toward educational technology use in instructional practices?

RQ2

What do Nepali K-12 teachers perceive as opportunities to integrate educational technology into their instructional practices?

RQ3

What do Nepali K-12 teachers perceive as challenges to integrating educational technology into their instructional practices?

RQ4

What are Nepali K-12 teachers' perceptions of the areas where they need additional training or support to effectively integrate educational technology into their instructional practices?

Review of the Methodology

This research used the phenomenology research design among qualitative methodology. Qualitative methodology is a research approach that focuses on understanding phenomena through the detailed exploration of participants' perspectives and experiences (Creswell & Poth, 2018). This study employed a phenomenological design. Phenomenology seeks to explore the essence of experiences, which can be more

abstract and less focused on practical descriptions (Neergaard et al., 2009). The phenomenological design was more appropriate for this study than other qualitative designs like case study or narrative design because it focuses on capturing the shared lived experiences and perceptions of Nepali K-12 teachers integrating educational EdTech into their instructional practices (Neergaard et al., 2009). Phenomenology allows for a detailed exploration of the teachers' perspectives, attitudes, and training needs, essential for understanding the broader implications of EdTech integration in Nepal's unique educational and cultural context.

The general population for this study was current K-12 teachers in Nepal with current or prior experience with online teaching. The researcher employed purposive and convenience sampling based on the researcher's understanding of the target group. Semi-structured interviews were conducted with 13 participants using Zoom, a video conferencing platform to carry out the study. The study was conducted through semi-structured interviews with 13 participants using the Zoom video conferencing platform. To analyze the semi-structured interview data collected from teachers in Nepal, the researcher employed Braun and Clarke's (2006) thematic analysis method.

Major Findings

The findings for RQ1 demonstrated mixed feelings toward educational technology use among participants. While the participants acknowledged that technology has potential benefits for their students' learning, they also noted that there are difficulties in using the technology without adequate training, and technical issues which often interrupted their lessons, suggesting the need for technology training.

For RQ2, participants shared opportunities they have to integrate educational technology into their instructional practices. The participants perceived two opportunities associated with the integration of educational technology into their lessons, including the provision of better technology in schools, such as internet access and laptops. As a result, without these tools, the participants would have had no opportunity to integrate technology into their lessons. The second opportunity was for educational technology to be used to develop more engaging lessons for the students. According to participants, schools should adopt technology to develop engaging lessons and learning practices.

For RQ3, the participants shared various challenges Nepali K-12 teachers face when integrating educational technology into their instructional practices. These challenges include the lack of training on how to use technology in their lessons, suggesting the need for more training as lack of training in how to use the technology can make integrating it into their lessons more challenging. Another challenge, as demonstrated by participants, included the learning curve, which was also related to a lack of training. The unavailability of training in how to use technology prompted teachers to train themselves. This led to a steep learning curve in which teachers took much longer to master important technological practices and processes required to integrate technology into the instructional practices. Participants also reported technical issues such as connectivity failures. The last challenge as mentioned by participants was difficulty ensuring technology access for all students as some participants' schools did not have enough technology for all students to have adequate access to a device.

The results for RQ4 revealed areas where Nepali K-12 teachers need additional training or support to effectively integrate educational technology into their instructional

practices. As revealed by the participants, the areas where they needed additional training or support included practical, hands-on training in using educational technology in ways that promoted learning in their specific subjects.

Findings Related to the Literature

A review of the literature was conducted to explore the EdTech in instructional practices among Nepali K-12 teachers. The reviewed literature exposed limited research on this topic, which prompted this qualitative, descriptive study. The sections that follow describe how the themes that emerged from the interviews are related to the literature reviewed in Chapter 2.

Emerging themes from Research Question 1

One of the themes that emerged from research question 1 was mixed feelings about technology. In addition to perceiving the potential of technology in enhancing learning for their students, participants struggled to use technology due to inadequate training or up-to-date tools and resources. In this regard, the findings suggest that Nepal K-12 teachers have positive feelings about technology for improving learning and negative feelings about technology because of inadequate training and skills to use the technology. These findings align with Nazaretsky et al. (2022) who reported that some teachers were highly satisfied with their EdTech professional experiences and the benefit of technology indicating enhancement of the learning process. Hands-on, subject-specific training is generally preferred over generic workshops as a lack of training leads to teacher anxiety (Dolfing et al., 2021). In this regard, training is highly required for teachers in integrating EdTech into classroom learning.

The findings also revealed that technology was associated with its benefits for making instruction more effective for Nepal K-12 teachers. According to the participants, technology promoted engaging lessons and students and making additional resources available to students, thereby enhancing learning. Overall, the use of technology as perceived by participants, promoted learning by making lessons more engaging and making content easier to assimilate during instructional practices by Nepal K-12 teachers. This theme addressed the research question by establishing that technology promoted learning and offered additional learning resources to students. The results of this study support the assertion of previous research, which indicated that as technology becomes more prevalent and user-friendly and as professional development opportunities increase, many teachers begin to recognize the potential benefits, such as increased student engagement and opportunities for personalized learning (Alamri et al., 2020). This suggests that technology makes lessons more engaging for both teachers and students.

Other than the perception that technology can be a potentially important and valuable learning resource for students and Nepal K-12 teachers, participants noted that technology was a source of frustration and anxiety. Such negative perceptions and feelings are associated with a lack of training and knowledge to effectively use technology in classrooms for instructional practices. This makes it difficult for Nepal K-12 teachers to incorporate technology into their lessons. The results showed that the anxiety related to the use of technology was due to the lack of sufficient preparation on how to use technology in instructional practices. Thus, there is a need for more training to help teachers implement the technology more seamlessly. This finding reinforces the supposition of previous research that comprehensive teacher training and support can

enhance the adoption of technologies in schools (Al-Rahmi et al., 2021; Valverde-Berrocoso et al., 2021).

Emerging Themes from Research Question 2

Providing technologies by schools was one of the emerging themes for research question 2. The opportunities to integrate educational technology into Nepal K-12 teachers' instructional practices as demonstrated by participants include schools providing technologies such as internet access and laptops to enable teachers and students to use technology in lessons. Yet, most resources provided were outdated and this led to technical issues, leading to disrupted instructions. The integration of technology has become imperative, offering unprecedented opportunities to enhance teaching and learning experiences, and the successful adoption of EdTech is influenced by several factors, including support from schools for the effective implementation of EdTech in learning (Leow et al., 2021).

Qashou (2021) emphasized key resources to help integrate technology into Nepal's education system include hardware devices such as computers, tablets, and interactive whiteboards, as well as stable internet connectivity and appropriate software applications. The current study findings supported this supposition by indicating that schools need to provide students and teachers with faster internet and new devices with updated features. While schools offered technology support to teachers, participants reported that infrastructure and lack of funding were barriers for most schools in pursuing opportunities to provide more advanced technologies. Integrating technology into teaching-learning processes without adequate resources and infrastructure becomes an

almost unmanageable task, an impediment to widespread adoption and effective use (Eze et al., 2020).

Current study findings indicated that the educational technology provided Nepal K-12 teachers with an opportunity to create more engaging lessons for their students. The results imply that technology helped teachers to engage students through visuals, immediate feedback, and interactive activities. This resulted in enhanced students' enjoyment of learning as this offers teachers the opportunity to engage students more effectively. However, previous research indicated that the digital divide and limited access to resources are major restrictions in the technology integration process in education in Nepal, limiting student engagement (Khanal, 2023).

Emerging Themes from Research Question 3

The first emerging theme of this research question showed that one of the challenges faced by Nepal K-12 teachers was the lack of training or insufficient training, which led to feelings of inability to use technology in lessons. Such lack of technology training made participants struggle to adopt technology as they were affected by anxiety about using it without adequate guidance and training. Therefore, the lack of training makes it difficult for teachers to teach effectively. The results of this study imply that the lack of step-by-step, hands-on guidance and subject-specific training for optimizing the use of technology limited teachers from incorporating technology in their instructional practices. Consequently, the review of the literature supports this finding by indicating that the lack of contextualized digital educational resources tailored to the local context, cultural nuances, lack of training and learning preferences of Nepali students is more likely to hinder student engagement and the effectiveness of technology-based learning

initiatives in Nepal schools (Salas-Pilco et al., 2022). The convergence of findings suggests the need for schools to train teachers on how to use technology.

Technical issues were a concern for most participants as they struggled with connectivity problems daily. Technical issues disrupted their instructional practices as they struggled with technical issues such as limited connectivity and online platforms that they did not understand how to troubleshoot. Such technical issues might be a barrier to the adoption of technology by teachers in their instructional practices. These findings confirm past research which revealed that frequent power outages and internet connectivity issues in many parts of Nepal can severely disrupt the use of technology in classrooms, affecting the learning process (Atreya & Acharya, 2020).

Further, participants highlighted that Nepal K-12 teachers faced challenges in ensuring students have access to technology including access to devices and the internet. In this regard, the inability of teachers to get access to learning technologies for all students implies that they cannot teach all their students equally or equitably. The results concur with those of previous research which indicated that sufficient funding and resource distribution can be effective in affecting the level of technology adoption in education as this would help provide resources to teachers and students (Liu et al., 2020). Therefore, there will be the need for equipment, software, infrastructure, training, and technical support to make technology an integral part of teaching and learning (Liu et al., 2020). As a result, there is a need to ensure all students have access to technology and other resources including computers and the internet to enable the use of technology in lessons.

Emerging Themes from Research Question 4

One theme emerged to address the research question 4. One such theme included hands-on training. Participants revealed that they needed a specific kind of practical and hands-on training in the educational technology that would be most useful. Thus, training on how to use specific tools and strategies for integrating technology into lessons would make teachers more confident. Therefore, training content for Nepal K-12 teachers should include basic troubleshooting and practical, subject-specific tips for integrating technology into instruction effectively. The results demonstrate training is an important aspect of ensuring Nepal K-12 teachers develop the ability to integrate technology into their instructional practices in lessons. This finding aligns with previous literature which indicated the need for training in specific areas where teachers feel they lack the knowledge, skills, or experience required to successfully integrate EdTech into their teaching practices (Dawadi et al., 2020). Training teachers on how to use technology can make them feel adequately prepared to address challenges, troubleshoot technical issues, and maximize available resources to enhance student engagement and learning outcomes in schools (Dawadi et al., 2020). The result suggests the need for continuous training and development for teachers to integrate technology into their instructional practices.

Conclusions

This section presents the conclusions of this study. The study's results prompt implications for action and recommendations for future research. This section discusses these concepts in more detail and concludes with concluding remarks on this study.

Implications for Action

This study's findings provide insights into the importance and benefits of incorporating technology in teachers' instructional practices. The results provide valuable

insights into the role of EdTech in the Nepali classroom context and identify

opportunities and strategies for enhancing teachers' readiness to leverage EdTech. The

results of this study showed that technology leads to enhanced learning among students.

As a result, teachers can opt to adopt technology in their instructional practices which

contributes to enhanced learning. Technology has become an integral part of the

educational process, offering new and innovative ways to enhance learning outcomes and

expanding the potential of EdTech in K-12 education in Nepal or any other pandemic

(Gyawali & Bhatta, 2021).

Education leaders in Nepal may use this study's findings to understand the

challenges to integrating technology in instructional practices among teachers. The study

highlights the need for offering training programs to equip Nepali K-12 teachers with the

skills and confidence required to integrate EdTech effectively. Professional development

programs and initiatives such as hands-on workshops, subject-specific training, and

ongoing technical support to address teachers' challenges and enhance their capabilities.

Schools must ensure the provision of sufficient resources to support teachers in acquiring

effective skills and knowledge in technology. Additionally, they should supply teachers

and students with essential tools, such as computers and high-speed internet connectivity.

The insights from this research can also inform the design of targeted training programs

and support mechanisms to bridge the digital divide and enhance the overall quality of

education in Nepal.

Using this study's results, educators could continue to harness the benefits of

technology to enhance the learning experience, incorporating interactive and engaging

multimedia elements. Due to the use of outdated devices, slow internet, and limited

teacher training as demonstrated in the findings of this study, collaborative platforms and virtual classrooms could foster community among students, creating a supportive online learning environment. Continuous professional development for teachers can ensure they stay abreast of the latest educational technologies and pedagogical approaches. Flexibility in course structures, allowing for a blend of online and in-person elements, can accommodate diverse learning preferences (Sahu, 2020). Therefore, the findings of this study can help develop and implement policies and initiatives aimed at fostering a tech-savvy and adaptive teaching community in Nepal, fostering a more technologically enriched learning environment for students.

Technology use as demonstrated in the current can promote engaging lessons for students which enhances learning. Thus, understanding the challenges and benefits of technology can inform policymakers, educators, and stakeholders about the specific barriers teachers face, such as lack of resources and insufficient training. This may prompt the need to establish training and development programs in EdTech in Nepal to enhance education sectors and promote a virtual learning environment. Overall, this study can contribute to the development of targeted strategies and professional development programs that support teachers in effectively utilizing EdTech. This, in turn, can improve student engagement and learning outcomes, promoting a more modern and competitive Nepal's educational system (Srivastava, 2023b).

Recommendations for Future Research

This research's findings presented opportunities that warrant future research. This study demonstrated the challenges faced by Nepal teachers integrating educational technology into their instructional practices. However, only limited strategies were

outlined to help address such challenges. Therefore, future research should be conducted to explore more effective strategies to promote the incorporation of EdTech in Nepal schools. Such research should focus on determining effective strategies for enhancing technology integration in instructional practices by tutors in higher learning institutions, specifically colleges. This would help identify and compare the incorporation of technology in colleges and schools.

This study focused on K-12 teachers in Nepal, where cultural, economic, and educational factors unique to the region influence the integration of EdTech. While the study provided rich, contextualized insights, these findings may not apply to other settings with different educational systems or cultural dynamics. Providing thick descriptions of the study context helped mitigate this limitation to some extent, but the inherent specificity of qualitative research means that findings are often not universally applicable (Creswell & Poth, 2018). As a result, future researchers should consider replicating this study in other settings, including college and university tutors in Nepal, and understand how technology integration affects learning and their instructional practices.

Because this study demonstrated the need for hands-on-training for teachers to enhance their technology skills to help them in the use of technology in their instructional practices, future studies could explore how hands-on-training and availability of resources impact the adoption of technology not only by K-12 teachers in Nepal educational system but faculties in Nepal's higher education. This would help in ascertaining the extent to which hands-on training and resources can promote the implementation of technology in instructional practices in Nepal's education system.

Such future research can be conducted by analyzing quantitative data to determine the relationship between these factors and the adoption of technology in instructional practices in the Nepal education system.

Concluding Remarks

This has demonstrated a comprehensive understanding of the EdTech landscape from the perspective of teachers in Nepal, indicating the benefits of technology in education for teachers and the literature confirms that enhanced learning could be a key benefit of technology. The results have provided insights into the preparedness of Nepali teachers regarding the utilization of EdTech in their instructional practices. This has led to the understanding of teachers' attitudes, beliefs, and skill levels which are crucial for the successful implementation of technology in classrooms (Khanal, 2023). This study contributed to the literature on the use of technology by Nepal K-12 teachers by offering significant insights into the under-researched aspects of technology integration in the Nepal education system. While the findings of this study indicate that participants perceived benefits and challenges in integrating technology in learning, they also demonstrated a lack of training and insufficient resources as major challenges facing Nepal K-12 teachers. As a result, participants suggested the need for hands-on training to enhance their skills and knowledge in using technology in their instructional practice lessons. Thus, this research serves as a focal point in further investigating the relationship between hands-on training, resource availability, and adoption of EdTech in Nepal's education system.

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Appendices

Appendix A. Participant Recruitment Survey

Join my research study and share your experience!

Thank you for taking the time to complete this brief survey!

The purpose of this survey is to confirm your eligibility and willingness to participate in a roughly one-hour Zoom interview discussing the integration of educational technology into instructional practices in the classroom. Your responses will remain confidential and will only be used for research purposes.

Please answer the questions honestly and to the best of your ability. If you have any quetsoins or concerns, feel free to contact me at sabinakc@stu.bakeru.edu.

Thank you for your participation!

drsabinakc@gmail.com Switch account

Not shared

* Indicates required question

Are you currently a K-12 teacher teaching in Nepal? *

◯ Yes

◯ No

Do you have current or prior experience in teaching courses with an online component? *

☐ Yes

☐ No

Would you be willing to participate in an approximately one-hour Zoom interview if selected? *

◯ Yes

◯ No

What is your preferred communication method for information related to this study? *

Your answer

By providing the above information and submitting this form, you confirm that you * have read and understood the information provided about the study. If selected, do you consent to participate in this research study?

◯ Yes

◯ No

Thank you!
Submit button below!

Submit   Clear form

Appendix B. Social Media Post for Participant Recruitment

Sabina K C ▾
Post to Anyone

✕

Nepali K-12 educator friends- I need your help! For my dissertation, I'm researching Nepali K-12 teachers' attitudes toward using educational technology in their instructional practices. Please answer a few questions to confirm your qualifications and interest in participating. Feel free to pass this along to others you know who meet the criteria and are interested. Thank you for your consideration!**#research #k12education #educationtechnology #Nepalieducators #instructionalpractices #instructionaldesign #Opportunities #Challenges #trainingsupport**

✕

Join my research study and share your experience!
docs.google.com

Appendix C. Interview Protocol

Interview Protocol

Research questions:

> **RQ1**:   What are Nepali K-12 teachers' attitudes toward educational technology use in instructional practices?
>
> **RQ2**.   What do Nepali K-12 teachers perceive as opportunities to integrate educational technology into their instructional practices?
>
> **RQ3**:   What do Nepali K-12 teachers perceive as challenges to integrating educational technology into their instructional practices?
>
> **RQ4**:   What are Nepali K-12 teachers' perceptions of the areas where they need additional training or support to effectively integrate educational technology into their instructional practices?

Creswell and Poth's (2018) Interview Guidelines:

- Stay within the study boundaries.
- Use the protocol to guide the interview.
- Complete the interview on time.
- Be respectful and courteous.
- Actively listen (limit questions and advice).

Opening script:

[Begin by exchanging pleasantries.]

Thank you again for participating in this study. As a reminder, the purpose of this study is to explore Nepali K-12 teachers' attitudes, opportunities, challenges, and training needs in integrating educational technology in instructional practices.

Before we dive into the interview questions, I'd like to take a moment to cover a few things. First, I wanted to let you know that I received your signed consent form, so thank you very much for that. Second, I wanted to let you know that if at any point you would like me to stop the interview or if you would prefer not to answer certain questions, just let me know. Third, I will be recording this interview, and I want to reassure you that this interview and your identity will remain confidential. I will also permanently delete the recording once the study is done.

Based on all of that information I shared, I have two questions for you:

1. What questions can I answer for you at this point?
2. Are you ok with me recording this interview?

[RENAME PARTICIPANT'S NAME IN ZOOM, if applicable]

Great, thanks. I just started the recording. So that we have this on record, can you confirm verbally that I have your permission to record you?

Ok, thank you. Let's get started.

Interview Questions:

Question (Prompt)	Probes and Follow-up Questions	Rationale
DQ1: Would you mind sharing a bit more about your background in the teaching field and your background with using the education technology?	*Probe for:* • Years of experience in the field • Years of experience using education technology • Education (highest level of school/highest degree earned)	• Demographics • Establish rapport
IQ1: How do you feel about using educational technology in your teaching practices? **IQ2:** In what ways do you think educational technology impacts teaching and learning outcomes?	*Probe for:* • Any technology used and attitude *Probing questions:* • Can you provide examples of technologies you enjoy using in your classroom? • Have your attitudes changed over time? If so, how? • Do you think technology makes your job easier or harder? Why?	To answer RQ1.
IQ3: What opportunities do you see for integrating technology into your teaching practices? **IQ4:** How do the school environment and resources support technology integration?	• Can you share a specific instance where technology enhanced your teaching? • Are there particular subjects or topics where you feel technology is most beneficial? • What kind of infrastructure (e.g., internet, devices) is available at your school? • Do your administrators encourage or provide incentives for using technology?	To answer RQ2.

Question (Prompt)	Probes and Follow-up Questions	Rationale
IQ5: What challenges have you faced in using technology in your classroom? **IQ6:** How does access to resources and training affect your ability to use technology effectively?	• Are there challenges more related to technical issues, time, or student engagement? • How do you usually address these challenges? • Are there specific tools or resources you wish were more accessible? • How often do technical issues disrupt your lessons?	To answer RQ3.
IQ7: What areas of training or support would help you feel more confident in using educational technology? **IQ8:** How effective have the existing training programs been in meeting your needs?	• Are there specific tools or platforms you would like to learn more about? • Do you prefer hands-on workshops, online resources, or peer support for training? • What aspects of previous training programs did you find useful or lacking? • Have you been able to apply what you learned in your classroom?	To answer RQ4.

Closing Script:

At this point I'm finished asking you questions. Thank you so much for your participation! The study wouldn't be possible without you.

Do you have any questions for me at this point?

Thank you again for your time today and for your willingness to participate.

Appendix D. Baker University IRB Request

BAKER UNIVERSITY

IRB Request

Date December 4, 2024

IRB Protocol Number _____

(IRB use only)

I. Research Investigator(s) (students must list faculty sponsor)

Department(s) School of Education (IDPT)

Name	Signature	
1. Sabina KC	Sabina KC *Digitally signed by Sabina KC Date: 2024.12.04 13:49:47 -06'00'*	Principal Investigator
2. Dr. Wendy Gentry	*Digitally signed by Wendy Gentry Date: 2024.12.04 12:58:56 -05'00'*	☐ Check if faculty sponsor
3. Dr. Kyunghwa Cho	Kyunghwa Cho *Digitally signed by Kyunghwa Cho Date: 2024.12.04 13:20:52 -06'00'*	☑ Check if faculty sponsor
4.		☐ Check if faculty sponsor

Principal investigator contact information   Phone ████████████

Note: When submitting your finalized, signed form to the IRB, please ensure that you cc all investigators and faculty sponsors using their official Baker University (or respective organization's) email addresses.

Email ████████████

Address ████████████

Faculty sponsor contact information   Phone ████████████

Email ████████████

Expected Category of Review: ☐ Exempt   ☑ Expedited   ☐ Full   ☐ Renewal

II. Protocol Title

Exploring Nepali K-12 Teachers' Perspectives on Integrating Educational Technology in Instructional Practices

Baker IRB Submission form page 1 of 4

III. Summary:

The following questions must be answered. Be specific about exactly what participants will experience and about the protections that have been included to safeguard participants from harm.

A. In a sentence or two, please describe the background and purpose of the research.

The purpose of this research is to explore Nepali K-12 teachers' attitudes toward the use of educational technology in their instructional practices, identify perceived opportunities and challenges for its integration, and examine areas where teachers feel they need additional training or support to effectively implement educational technology.

B. Briefly describe each condition, manipulation, or archival data set to be included within the study.

This Phenomenological study explores the perspectives of Nepali k-12 teachers. No conditions, manipulations, or archiveal data will be part of this study.

IV. Protocol Details

A. What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

The researcher will share the participant Recruitment Survey (see attached) with potential participants social media and their personal network. The questionnaire will allow potential participants to confirm their willingness and qualifications to participate. An interview Invitation Email and Informed Consent Form (see attached) will be provided to eligible participants. Data will be collected through semi-structured interviews via Zoom following an interview Protocol (see attached).

B. Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

The subjects will not encounter psychological, social, physical, or legal risks. Subjects may opt out of responding to any questions and may withdraw at any time.

C. Will any stress to subjects be involved? If so, please describe.

No stress to the subjects is anticipated in this research study.

D. Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

The subjects will not be deceived or misled in any way.

E. Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

Interviewees will not be asked to provide any personal or sensitive information. Prior to the start of the interview, the participant will be informed they can choose to end the interview at any time, as well as choose not to answer any questions.

F. Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

The participants will not be presented with materials which might be considered to be offensive, threatening, or degrading.

G. Approximately how much time will be demanded of each subject?

The initial recruitment survey will take less than 5 minutes to complete. The interview process will take approximately 45-60 minutes.

H. Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

The participants will be Nepali K-12 teachers who have experience with educational technology in their instructional practices. Participants will be solicited via a social media post that includes a link to the recruitment survey (see attachment for the social media post and recruitment survey). Recruitment communication is attached.

I. What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

The initial recruitment survey and the informed consent forms will explain that participation in the study is voluntary. No inducements will be provided to participate.

Baker IRB Submission form page 3 of 4

J. How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

Subjects will be provided a question to confirm their consent to participate in the Participant Recruitment Survey (see attached). Those selected to participate in interviews will be provided an Informed Consent Form (see attached) to be signed prior to participating in the study.

K. Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

No, no data will be made a part of any permanent record that can be identified with the participants. If an individual is selected to interview, their name will be coded to protect their anonymity (e.g. Jane Doe will be changed to Participant A). The coding matrix will be permanently deleted once the study concludes. Video recordings will be deleted after analysis.

L. Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher, or employer? If so, explain.

No, no permanent records will be kept for any subjects who choose not to participate in the study or who withdraw from the study.

M. What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with the data after the study is completed?

The recruitment survey responses will be stored in SurveyMonkey, which is password-protected. All interview data will be reported in aggregate; the results of the study will not contain information that will personally identify participants. The interview recordings and the participant coding matrix will be stored in a password-protected location and will be permanently deleted when the study concludes.

N. If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

There are no known risks involved in the study that offset any benefits.

O. Will any data from files or archival data be used? If so, please describe.

No data from files or archical data will be used.

Baker IRB Submission form page 4 of 4

Appendix E. Baker University IRB Approval

Baker University Institutional Review Board

December 5, 2024

Dear Sabina KC, Wendy Gentry, and Kyunghwa Cho,

The Baker University IRB has reviewed your project application and approved this project under Expedited Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.
6. If this project is not completed within a year, you must renew IRB approval.

If you have any questions, please contact me at █████████████████████

Sincerely,

███████████████████████

Scott Kimball, PhD
Chair, Baker University IRB

Baker University IRB Committee
    Tim Buzzell, PhD
    Steve Massey, EdD
    Jiji Osiobe, PhD
    Susan Rogers, PhD

Appendix F. Interview Invitation Email and Informed Consent Form

Subject Line: Research Study: Interview Invitation

Hello [Name],

You are receiving this email because you recently completed a survey regarding the use of educational technology in instructional practices. In that survey, you indicated your interest in participating in an interview. I would be pleased to speak with you and am attaching information about the study and interview process. This attachment also includes an informed consent form for your review and signature.

I'd love to schedule your interview for next week or two. Can you please reply back with the following?

1. A copy of your signed consent form.
2. A preferred date and time for the interview. Here are a few options (I'm happy to provide more if necessary):
   a. Date/Time Option 1
   b. Date/Time Option 2
   c. Date/Time Option 3
   d. Date/Time Option 4

Note: we will be using Zoom for the interview, and while I will have my camera enabled so you can see me, you can choose to enable or disable your camera – whatever you are most comfortable with is fine with me.

Please feel free to reach out with any questions. Thank you very much for your participation!

Best,

Sabina KC
Ed.D. Candidate
Baker University

[Attachment: Informed Consent Form]

Informed Consent Form

1. Interview Process

The researcher will schedule the interview via Zoom at a time that is convenient for you. Additionally, the researcher will ask you to review and return a signed copy of the Informed Consent Form (below) prior to the interview occurring. Once you are ready to begin, the researcher will ask a series of questions about the research topic. The interview will take no more than 60 minutes.

2. Informed Consent Form

Purpose
The purpose of this study is to describe how Nepali K-12 teachers' attitudes toward using EdTech in instructional practices. This study aimed to identify the opportunities and challenges in integrating EdTech into their instructional practices. This study also explores teachers' perceptions of the areas where they need additional training or support to effectively integrate EdTech into their instructional practices.

Participation
You are invited to participate in the interview portion of this study because you completed a survey that indicated your interest in an interview. Additionally, you met the criteria established by the researcher. Your participation in this research study is completely voluntary; you may choose not to participate. If you choose to participate, you may withdraw at any time. If you choose not to participate or if you withdraw from the study at any time, you will not be penalized.

Benefits, Risks, and Discomforts
There are no known risks or discomforts involved with your participation in this study. There are no direct benefits to you as a participant in this study.

Confidentiality
The results of this study will be used for scholarly purposes only. To help protect your confidentiality and anonymity:

- A secure platform (i.e., Zoom) will be used to record and transcribe your interview.
    - Your last name will not be used while the interview is being recorded.
    - A transcript of the interview will be stored in a password-protected electronic format that is only accessible to the researcher, her major advisor, and her research analyst.
    - Once the study concludes, the recording will be permanently deleted.
- All data will be reported in aggregate; the results of the study will not contain information that will personally identify you.
    - Your full name will be coded to maintain anonymity (i.e., Jane Doe will

be coded as Participant A, John Doe will be coded as Participant B, etc.). The coding matrix will be stored in a password-protected electronic format that is only accessible to the researcher.
- o Once the study concludes, the coding matrix will be permanently deleted.

Questions About the Study
If you have any questions about this research study, you may contact the researcher or the researcher's major advisor.

Researcher: *Major Advisor:*
Sabina KC, Ed.D. Candidate   Wendy Gentry, Ph.D.
School of Education   School of Education
Baker University   Baker University
███████████████   ███████████████

Consent
By signing below, you indicate that you have read this informed consent form, that you understand it, and that you choose to participate in the interview portion of this study.

_____   _____
Signature   Date

_____
Printed Name