

Navigating Cultural and Pedagogical Challenges: The Lived Experiences of Filipino Science Teachers in Las Vegas Nevada

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Abstract

This study explored the lived experiences of Filipino J-1 science teachers in adapting their instructional practices while teaching in U.S. middle schools. Specifically, it examined their lived experiences in navigating cultural and pedagogical challenges, derived the meanings and emergent themes from these experiences, and developed a culturally responsive teacher-support framework to facilitate their successful adaptation to culturally diverse educational environments. The study was anchored on Adaptive Cross-Cultural Pedagogy, Culturally Responsive Pedagogy, and the Intercultural Teacher Identity Development Theory.

A qualitative transcendental phenomenological research design was employed to capture the essence of the participants' lived experiences. Ten (10) purposively selected Filipino J-1 science teachers participated in semi-structured interviews that generated rich and in-depth narratives. Data were analyzed using Moustakas' transcendental phenomenological approach through horizontalization, the identification of significant statements, formulation of meanings, clustering of themes, textural and structural descriptions, and synthesis of the essence of the lived experience.

The findings revealed that Filipino J-1 science teachers experienced instructional adaptation as a transformative process involving cultural adjustment, pedagogical transition, technology integration, inclusive teaching, and professional identity development. Participants initially encountered uncertainty, unfamiliar classroom expectations, and cultural differences but gradually developed resilience, instructional flexibility, intercultural competence, and professional confidence. Six major themes emerged from the analysis: transition to a new educational environment; instructional adaptation and innovation; technology-enhanced instruction; cultural and communication adjustment; teaching in diverse learning environments; and professional growth and identity development.

Based on the findings, a Culturally Responsive Teacher-Support Framework was developed to strengthen cultural orientation and communication training, pedagogical support and professional development, technology integration, inclusive teaching and differentiated instruction, and mentoring and professional support for Filipino J-1 science teachers assigned to U.S. middle schools. The framework provides a comprehensive and evidence-based guide for supporting international teachers as they adapt to culturally diverse educational settings. Overall, the study concludes that instructional adaptation is a holistic and transformative process requiring cultural responsiveness, reflective practice, institutional support, and continuous professional learning to promote effective, equitable, and inclusive science education.

Keywords: *cross-cultural teaching , culturally responsive pedagogy, Filipino J-1 teachers, instructional adaptation, , phenomenological study*

Chapter 1

THE PROBLEM AND ITS BACKGROUND

Introduction

Teachers who relocate from one cultural and educational system to another often encounter a complex set of challenges and opportunities that shape their instructional practices (Ulbricht et al., 2022). In the context of the United States, international exchange programs such as the J-1 visa program attract educators from the Philippines who bring strong content knowledge and distinctive instructional traditions, particularly in science education. Their transition, however, involves adapting to new classroom norms, cultural expectations, and pedagogical paradigms that may differ significantly from their prior experiences. Understanding these adaptations is essential not only for the teachers themselves but also for students, schools, and educational policy.

Recent research underscores the importance of cross-cultural pedagogical adaptation among international teachers. Villaver (2024) advanced the Adaptive Cross-Cultural Pedagogy Theory, emphasizing how Filipino J-1 teachers modify instructional materials, classroom management practices, and teaching strategies to respond effectively to diverse cultural settings in the United States while maintaining coherence with their professional preparation. Similarly, Caingcoy (2023) highlighted culturally responsive pedagogy as a critical lens that supports equity and inclusivity in classrooms, particularly in contexts where students come from varied cultural and linguistic backgrounds.

In science education, cross-cultural studies further illustrate how adaptation occurs in practice. For instance, collaborative work between U.S. and Philippine educators demonstrated that integrating the Next Generation Science Standards (NGSS) with culturally relevant practices enhances student engagement and learning (Castroverde et al., 2024). Likewise, studies on immigrant student populations in U.S. schools reveal that teachers' instructional decisions are shaped by their beliefs, cultural knowledge, and the need to create inclusive and supportive learning environments (Bartlett & Rodríguez, 2023).

Despite this growing body of literature, limited qualitative research focuses specifically on Filipino J-1 science teachers in U.S. middle schools. Little is known about how they perceive their pedagogical shifts, how cultural and institutional norms influence their teaching practices, and how they balance professional adaptation with their cultural and personal identities. This gap is especially significant given that middle school science is a critical stage for students' development of scientific attitudes, inquiry skills, and engagement—factors that are strongly influenced by culturally responsive teaching.

Therefore, this study explored the lived experiences of Filipino J-1 science teachers in adapting their instructional practices while teaching in U.S. middle schools. It aimed to identify the meanings and themes emerging from these experiences, to understand how pedagogical adaptation occurs in practice, and to propose a culturally responsive teacher-support framework.

The increasing globalization of education has amplified the movement of teachers across borders, with Filipino educators becoming a significant part of the U.S. teaching workforce through the J-1 visa program. Their presence addresses teacher shortages in the United States, particularly in science and other high-need subject areas; however, their adaptation to new cultural and pedagogical contexts remains a critical concern. Previous scholarship highlights that Filipino teachers encounter cultural shock, challenges in classroom management, and adjustments to U.S. educational norms, while also demonstrating resilience and employing various coping strategies (Macapagong, Maguate, & Geroso, 2023). These findings provide valuable insights into teachers' overall adjustment; however, they do not fully capture the nuanced instructional adaptations required in science classrooms at the middle school level.

Parallel research examines Filipino teachers' use of technology and pedagogy in cross-national contexts. For example, Veridiano and Brondo (2023) found that Filipino teachers in the United States actively integrate technology into their pedagogy but struggle to align these practices with the inquiry-based and student-centered approaches expected in American science education. While this underscores teachers' capacity for adjustment, it also suggests the need for a closer examination of the intersection of technology, pedagogy, and cultural responsiveness within specific content areas such as science.

In the Philippine context, adaptation studies also provide important background. Tijap, Malamdag, Paz, and Pelgone (2022) identified the challenges and practices of Filipino science teachers during the "new normal," demonstrating their flexibility in navigating new modalities and instructional demands. Similarly, Collantes et al. (2022) documented the challenges and opportunities faced by science teachers during the pandemic, highlighting resilience in shifting contexts. Although these studies affirm the adaptability of Filipino teachers, they primarily address local challenges and pandemic conditions rather than cross-cultural, institutional, and identity-based adaptation in U.S. middle schools.

These studies establish a foundation but reveal a critical gap in understanding how Filipino J-1 science teachers specifically navigate instructional adaptation in U.S. middle schools. This context demands not only pedagogical modification but also the negotiation of professional identity and the enactment of culturally responsive practices. By exploring the lived experiences of these teachers, the present study contributed new knowledge that strengthens both cross-cultural pedagogy and the pursuit of equitable science education.

Theoretical lens

This study was anchored on several contemporary theoretical perspectives that provide a lens for understanding the instructional adaptations of Filipino J1 science teachers in U.S. middle schools.

Foremost among these is the Adaptive Cross-Cultural Pedagogy Theory (ACPT), which highlights how teachers in foreign cultural settings adjust their teaching strategies, classroom management practices, and instructional materials to respond to culturally diverse learners (Villaver, 2024). This framework is particularly relevant as it was conceptualized within the context of Filipino teachers in international teaching programs, making it directly applicable to the participants of this study.

In addition, the study draws from Culturally Responsive Pedagogy (CRP), which emphasizes the importance of recognizing, respecting, and integrating students' cultural backgrounds into teaching to promote equity and inclusion (Caingcoy, 2023). CRP provides a lens for examining how teachers' adaptations are not merely technical adjustments but deliberate efforts to make instruction meaningful and accessible to all learners. It also aligns with the study's goal of developing a culturally responsive teacher-support framework.

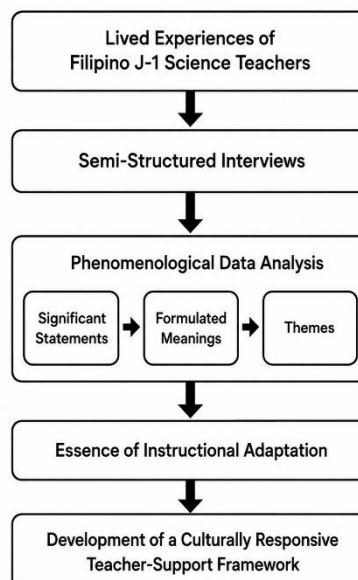
Another relevant framework is the Intercultural Teacher Identity Development Theory, which underscores how teachers' professional identities evolve as they negotiate cultural and pedagogical differences in new educational contexts (Yazan & Lindahl, 2023). This perspective is essential in understanding the lived experiences of Filipino J1 teachers, particularly how they construct meanings, navigate tensions, and reconstruct their roles as educators in U.S. classrooms. By foregrounding identity, this theory enriches the analysis of how internal beliefs and values shape teachers' adaptation processes.

Furthermore, the study is informed by recent scholarship on Beliefs about Multiculturalism and Polyculturalism, which explains how teachers' orientations toward cultural diversity influence their pedagogical decision-making and responsiveness to students (Park, Lee, & Chang, 2023). Teachers who view cultures as dynamic and malleable are more likely to engage in adaptive and socially just practices. This framework complements CRP by uncovering how underlying beliefs support or hinder equitable and responsive instruction.

Collectively, these theoretical perspectives establish a multidimensional foundation for the inquiry. By situating instructional adaptation within cultural, pedagogical, identity, and belief systems, the study generated nuanced insights into the lived experiences of Filipino J1 science teachers and informed strategies that advance equitable and culturally responsive education in diverse classrooms.

Research Paradigm

Figure 1. Research Paradigm



This study was anchored on the qualitative phenomenological paradigm, which views reality as socially and individually constructed through lived experiences. The study assumed that the instructional adaptation of Filipino J-1 science teachers in U.S. middle schools is shaped by personal meanings, cultural interactions, and professional transitions encountered in cross-cultural teaching environments. From this perspective, reality is understood as subjective and based on how participants interpret and give meaning to their teaching experiences.

The research paradigm illustrates the overall process of the study. The inquiry began with the lived experiences of Filipino J-1 science teachers as they navigated instructional adaptation in culturally diverse U.S. middle school classrooms. These lived experiences served as the primary source of data and understanding in the study.

To gather rich and detailed narratives, the study utilized semi-structured interviews. This method allowed participants to openly describe their experiences, challenges, adjustments, and professional transitions while teaching in cross-cultural educational settings. Through interactive dialogue, the researcher obtained in-depth descriptions that reflected the participants' perspectives and interpretations of their experiences.

The collected narratives were analyzed using Moustakas' transcendental phenomenological analysis. The process involved the identification of significant statements, formulation of meanings, and clustering of themes to capture the essence of the participants' lived experiences. Through phenomenological analysis, the researcher examined how participants experienced cultural adjustment, pedagogical transition, technology integration, inclusive teaching, and professional growth in U.S. middle school classrooms.

The analysis further led to the synthesis of the essence of instructional adaptation, which reflected the participants' shared experiences of adjustment, resilience, cultural responsiveness, and professional transformation. These findings became the basis for the development of a culturally responsive teacher-support framework intended to assist Filipino J-1 science teachers and other international educators in culturally diverse learning environments.

Epistemologically, the study recognized that knowledge is co-constructed through the interaction between the researcher and the participants. Understanding emerged from the participants' narratives, reflections, and descriptions of their lived experiences. Through dialogue and interpretation, the researcher sought to uncover the meanings and essence embedded within these experiences.

Methodologically, the study employed phenomenology to explore and describe the lived experiences of Filipino J-1 science teachers. Purposive sampling was utilized in selecting ten (10) participants who met the inclusion criteria. This approach enabled the researcher to capture rich, detailed, and meaningful accounts of instructional adaptation within cross-cultural teaching contexts.

Central Question

This study aimed to explore how Filipino J-1 science teachers adapted their instructional practices while teaching in U.S. middle schools. Specifically, it sought to answer the following central question:

What are the lived experiences of Filipino J-1 science teachers in adapting their instructional practices while teaching in U.S. middle schools?

Corollary Questions

To further examine the central research question, the study addressed the following corollary questions:

1. How do Filipino J-1 science teachers describe their significant experiences in navigating cultural and pedagogical challenges in U.S. middle school science classrooms?
2. What meanings can be derived from the participants' descriptions of their experiences?
3. What themes emerge from the formulated meanings identified in the study?
4. What culturally responsive teacher-support framework can be developed to assist Filipino J-1 science teachers in U.S. middle schools?

Scope and Limitations of the Study

This study focused on exploring the lived experiences of Filipino J1 science teachers as they adapted their instructional practices while teaching in U.S. middle schools. The inquiry was limited to ten (10) purposively selected participants who met the inclusion criteria of having taught middle school science in both the Philippines and the United States for at least one year. The scope ensured that participants possessed sufficient professional background in both contexts, enabling them to meaningfully describe their adaptation processes, challenges, and strategies in navigating cultural and pedagogical differences.

The study was bounded by its qualitative design, which privileged depth of understanding over breadth of representation. The experiences captured were not intended to generalize to all Filipino J1 teachers or all international educators but to provide rich and detailed insights that illuminated common themes, meanings, and implications. The focus on middle school science teachers further delimited the study to a specific subject area and grade level, acknowledging that instructional adaptation may vary across other disciplines or educational stages.

Geographically, the study was confined to Filipino J1 teachers assigned to middle schools in the United States. Temporally, it included only those with at least one year of teaching experience in both countries to ensure that participants had experienced the complexities of professional transition.

Despite its significance, the study had certain limitations. First, the small sample size and purposive selection of participants limited the transferability of findings to other contexts or groups of international teachers. Second, the study did not account for external factors such as institutional policies, school leadership practices, or community dynamics that may have influenced instructional adaptation. Furthermore, the scope excluded other subject areas, educational levels, and non-Filipino international teachers, which may offer different perspectives on cross-cultural teaching. The findings, while context-specific, contributed to broader discourses on culturally responsive pedagogy, teacher identity development, and cross-cultural instructional practices.

Significance of the Study

This study is significant for several reasons, as it contributes to both scholarly discourse and practical advancements in the field of education. Hence, this study identifies and organizes the beneficiaries according to the directness and immediacy of the benefits derived from its findings:

Filipino J1 Teachers. They are the primary beneficiaries of this study. The research provides valuable insights into the challenges and strategies associated with navigating a foreign educational context. These findings may guide future exchange teachers in preparing for cultural, pedagogical, and professional adjustments required in U.S. classrooms, ultimately enhancing their confidence, effectiveness, and adaptive capacities.

Students. They benefit from culturally responsive science instruction that validates diversity and promotes equitable learning opportunities. Exposure to teachers who adapt their practices across cultures fosters critical thinking, respect for differences, and deeper engagement in science learning.

U.S. Schools and Administrators. The study highlights the strengths and adaptive capacities of Filipino J1 teachers, shedding light on how cultural diversity can enrich science education. This research can serve as a resource for fostering inclusive practices, supporting international teachers, and promoting student engagement in multicultural classrooms.

Parents. They can gain assurance that international teachers can provide high-quality and inclusive instruction that considers the diverse needs of learners. The findings emphasize how adaptation strategies contribute to nurturing supportive classroom environments where students feel valued and motivated to succeed.

Teacher Education Institutions in the Philippines. The study underscores the importance of integrating intercultural competence and adaptive pedagogical strategies into teacher preparation programs. By doing so, these institutions can better equip pre-service teachers for international teaching opportunities and cross-cultural professional experiences.

Academic Community and Policymakers. The study expands the body of knowledge on culturally responsive pedagogy and teacher identity development in global contexts. It also provides empirical evidence that can inform bilateral exchange programs, curriculum development, and policy reforms aimed at strengthening international collaboration in education.

Future Researchers. This study serves as a reference for further investigations on cross-cultural teaching, teacher identity, and instructional adaptation. It opens avenues for comparative studies between teachers from different cultural backgrounds, as well as longitudinal research on the long-term impacts of international teaching experiences.

Definition of Terms

To ensure clarity and consistency, the following terms are defined operationally based on how they are used in this study:

Culturally Responsive Pedagogy (CRP). In this study, this refers to the equity-driven teaching strategies employed by Filipino J1 science teachers to address students' diverse cultural, linguistic, and academic needs in U.S. middle school classrooms. This is observed through participants' descriptions of classroom practices, instructional decisions, and culturally inclusive approaches.

Filipino J1 Teachers. This refers specifically to Filipino science teachers participating in the J1 visa program who are assigned to U.S. middle schools and have at least one year of teaching experience in both the Philippines and the United States. These individuals serve as the participants of the study.

Instructional Adaptation. This pertains to the adjustments and modifications made by Filipino J1 science teachers in their teaching strategies, content delivery, assessment methods, and classroom management practices to respond to cultural, linguistic, and contextual differences in U.S. middle schools. This is identified through participants' narratives and reported classroom practices.

Lived Experiences. This refers to the personal narratives, reflections, and meaning-making shared by Filipino J1 science teachers regarding their instructional adaptation and professional transition while teaching in U.S. middle schools. These are derived from in-depth interviews conducted in the study.

Teacher Identity Development. This refers to the ways Filipino J1 science teachers reconstruct, negotiate, and redefine their professional roles and sense of self while adapting to new educational and cultural environments in the United States. This is reflected in participants' accounts of their professional growth, challenges, and role adjustments.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter provides a thorough summary of previous research, publications, and new findings relevant to this topic. The researcher has conducted extensive work to present a comprehensive review of the literature. Additionally, this chapter offers a synthesis of the reviewed literatures and studies which are essential for properly understanding the current study.

Cross-Cultural Experiences of Filipino J1 Science Teachers

The presence of Filipino teachers in U.S. schools through exchange and visa programs has drawn growing scholarly attention as part of broader patterns of global teacher mobility. Research indicates that Filipino educators are recruited to fill subject shortages and to diversify instructional staff, yet their transnational movement requires substantive cultural and professional adjustments (Macapagong, Maguate, & Geroso, 2023). Such mobility places teachers in contexts with different curricular expectations, classroom norms, and community relations; understanding these conditions is essential to appreciating the lived reality of Filipino J1 teachers in U.S. middle schools.

Qualitative investigations of Filipino teachers working abroad document a dual experience of opportunity and strain. Studies of Filipino teachers in U.S. settings report that while many educators value professional growth and improved compensation, they simultaneously confront cultural shock, social isolation, and tensions with host school expectations (Macapagong et al., 2023; Del Valle, 2024). These personal and professional tensions commonly surface in teachers' narratives as they negotiate unfamiliar institutional routines, new modes of parent–teacher interaction, and divergent student behavior norms.

The pedagogical implications of cross-cultural relocation are prominent in the literature. Villaver (2024) proposed an Adaptive Cross-Cultural Pedagogy perspective that foregrounds how Filipino teachers modify instructional materials, assessment practices, and classroom management to accommodate diverse student backgrounds and U.S. classroom dynamics. This work emphasizes that adaptation is an ongoing, reflexive process rather than a one-time adjustment, with teachers continually calibrating instruction in response to students' cultural repertoires and expectations.

Technology and pedagogical integration have been identified as specific domains of challenge and opportunity for Philippine teachers abroad. Studies examining Filipino teachers' technology practices in U.S. classrooms find that teachers bring substantive content and pedagogical knowledge but often need to align their uses of digital tools and laboratory technologies with host-school expectations and resources (Veridiano & Brondo, 2023). The demands of inquiry-based, standards-aligned science instruction in many U.S. middle schools thus require both technical and cultural adaptation.

Comparative work on science education highlights the complexity of aligning Philippine pedagogical traditions with U.S. middle-school expectations. Collaborative curriculum studies reveal that Filipino educators must often reconcile differences in epistemological emphasis, active learning norms, and expectations regarding student autonomy (Castroverde et al., 2024). These curricular tensions shape teachers' daily instructional choices and are central to understanding how Filipino J1 science teachers reconfigure lesson design, questioning strategies, and assessment approaches.

Contextual supports and constraints play a decisive role in shaping cross-cultural experiences. Empirical studies show that teachers who enter host schools with formal mentoring, collegial networks, or prior exposure to culturally diverse classrooms report smoother transitions and greater instructional confidence (Macapagong et al., 2023; Villaver, 2024). Conversely, absence of institutional support correlates with heightened stress, greater reliance on informal coping strategies, and more conservative teaching adjustments that may undercut attempts at culturally responsive practice.

The literature also emphasizes the emotional and identity dimensions of cross-cultural teaching. Research on teacher identity indicates that working in an intercultural context often triggers reflective reappraisals of professional identity, values, and pedagogical commitments (Rushton et al., 2023; Fang, 2024). For Filipino J1 teachers, these identity negotiations commonly involve reconciling prior training and cultural assumptions with the expectations of U.S. schooling, generating both tension and potential for professional growth.

Resilience and agency are recurrent themes in studies of Filipino teachers overseas. Even while confronting systemic and interpersonal barriers, many teachers deploy adaptive strategies modifying lesson pacing, using culturally familiar analogies, and seeking peer feedback to sustain student engagement and maintain instructional quality (Tijap, Malamdag, Paz, & Pelgone, 2022; Del Valle, 2024). Such accounts challenge deficit narratives and highlight the resourcefulness Filipino teachers bring to cross-cultural classrooms.

Language and communication dynamics are another salient element of the lived experience. Although Filipino teachers are typically proficient in English, research indicates that nuances of local idiom, classroom discourse patterns, and parent-school communication expectations may differ substantially and require explicit adjustment (Macapagong et al., 2023; Veridiano & Brondo, 2023). These communicative challenges can shape teachers' classroom presence, formative feedback practices, and interactions with families.

Scholarly work on cross-national collaborations suggests that structured professional learning and culturally responsive curriculum design can mitigate many adaptation challenges. Studies of joint lesson design and professional exchange highlight how bilateral curriculum work where Filipino and U.S. educators co-construct learning tasks supports alignment to standards while preserving cultural relevance, thereby easing teachers' pedagogical transition (Castroverde et al., 2024). Such models point toward practical supports that might be included in action plans for exchange teachers.

Several studies also stress the heterogeneity of Filipino teachers' experiences and caution against overgeneralization. Factors such as prior international exposure, years of teaching experience, school demographic composition, and the specific host-district policies mediate adaptation trajectories (Macapagong et al., 2023; Villaver, 2024). This variability underscores the need for qualitative, context-sensitive inquiry focused on middle-school science teachers to surface the particular contours of adaptation rather than assuming uniform patterns.

In conclusion, existing literature reveals a clear empirical gap: while studies document Filipino teachers' general migration experiences and pandemic-era adaptability, there is limited in-depth qualitative research focused specifically on Filipino J1 science teachers in U.S. middle schools their subject-specific instructional adaptations, identity negotiations within science pedagogy, and the institutional supports that facilitate equitable practice. Addressing this gap, the present study will provide focused, phenomenologically rich accounts of how Filipino J1 science teachers experience and enact instructional adaptation in U.S. middle-grade science classrooms.

Instructional Adaptations in Middle School Science Education

Instructional adaptation in middle school science education has become a central theme in contemporary scholarship, particularly as teachers work in increasingly diverse cultural and linguistic contexts. Recent studies reveal that adaptation involves more than modifying content; it also requires restructuring classroom discourse, reshaping assessments, and rethinking instructional goals to align with student needs. For instance, Esparza, Fleming, Zhang, and colleagues (2023) emphasized that teachers who integrated literacy-infused strategies into science instruction were able to improve students' comprehension and engagement. By weaving reading, writing, and vocabulary development into their lessons, science educators created access

points for learners from varied backgrounds, thereby demonstrating that adaptation is not limited to pedagogy but extends to the language demands of science learning.

Building on this perspective, Bae and O'Connor (2024) underscored the role of teacher noticing in shaping instructional change. Their study of professional development programs showed that teachers who learned to recognize and respond to student thinking in real time were more likely to make meaningful pedagogical shifts. This highlights how adaptation is an iterative and reflective process rather than a one-time adjustment. Teachers must continuously refine their strategies as they engage with learners' diverse ideas and misconceptions, making the classroom a dynamic site of co-constructed knowledge.

In a related study, Vasquez (2022) demonstrated how culturally responsive curriculum design fosters deeper learning in science classrooms. By embedding cultural references and familiar contexts into microbiology instruction, teachers not only enhanced student interest but also validated learners' lived experiences. Such adaptations go beyond superficial examples; they create epistemological bridges between students' cultural knowledge and scientific inquiry. Consequently, culturally responsive teaching repositions adaptation as a tool for equity, where students see their identities reflected in the curriculum.

Complementing this, Brown and Joyce (2023) analyzed how multicultural science instruction has been represented in practitioner journals such as *Science Scope* and *The Science Teacher*. They found that while inclusive pedagogies are increasingly promoted, many resources remain limited to surface-level multicultural content without engaging with critical or justice-oriented approaches. This suggests that teachers seeking to adapt their instruction toward equity may lack access to robust professional models. The gap further reinforces the need for research documenting authentic practices of science teachers who successfully navigate cultural and pedagogical differences.

Moreover, Abella, Anoling, and Cagatao (2024) provided an important framework for understanding the dimensions of effective science teaching by identifying the interplay between hands-on practices, assessment, technology integration, and conceptual clarity. While their study was situated in the Philippine context, the findings are instructive for Filipino teachers in U.S. classrooms who draw on these dimensions as they recalibrate instruction. For example, integrating inquiry-based labs while balancing U.S. assessment standards represents a form of adaptation that requires both pedagogical flexibility and cultural negotiation.

Equally significant, a broader reimagining of multicultural STEM education has been advanced in recent conceptual scholarship. According to *A-Reenvisioned Multicultural STEM Education for All* (2022), teachers must not only adapt instruction to student needs but also reshape the curriculum to position learners as capable scientists and innovators. This shift emphasizes that adaptation involves not just methods of delivery but the very framing of who belongs in science and how knowledge is constructed. Teachers working across cultural boundaries must therefore design experiences that affirm students' identities and dismantle barriers to participation.

In practice, inquiry-based science instruction has emerged as a powerful avenue for adaptation. However, implementing inquiry in diverse middle school classrooms requires

teachers to adjust pacing, scaffold student participation, and provide differentiated entry points. Research consistently indicates that students benefit from inquiry-based learning, yet teachers report challenges in planning and execution without sufficient resources and professional support (Bae & O'Connor, 2024). Thus, adaptation involves negotiating between ideal models of science pedagogy and the practical realities of student readiness and institutional structures.

Adaptation also increasingly involves technology integration. Digital simulations, virtual labs, and data-collection tools allow teachers to provide equitable opportunities for students with different learning preferences and resource access. However, as Brown and Joyce (2023) observed, the challenge lies not only in using technology but in ensuring its culturally responsive application. Teachers must adapt instruction so that technological tools enhance not replace interaction, collaboration, and critical thinking in science classrooms.

Another essential dimension of adaptation is classroom management, particularly in laboratory settings where group work and safety are paramount. Middle school teachers often need to establish new norms for collaboration, especially when cultural expectations for authority, discipline, and student participation differ from those in their home country. Effective adaptation requires teachers to negotiate these norms, sometimes by introducing peer-mentoring systems, modifying group roles, or aligning expectations with school culture to maintain productive and safe learning environments.

Finally, teacher beliefs and identity strongly shape the extent and depth of instructional adaptation. Studies demonstrate that teachers who hold strong commitments to equity and inclusivity are more likely to engage in transformative adaptations such as integrating cultural perspectives into lessons, differentiating instruction, and centering student voice (Vasquez, 2022). Conversely, teachers who view adaptation as compliance with external demands tend to adopt minimal or surface-level changes. This reinforces the argument that adaptation in science education is not merely technical but deeply tied to teachers' professional values and evolving identities.

These recent studies affirm that instructional adaptation in middle school science is a multidimensional endeavor. It encompasses adjustments in language, pedagogy, curriculum design, technology use, and classroom management, all of which are filtered through teachers' cultural orientations and professional beliefs. For Filipino J1 teachers in U.S. middle schools, such adaptations are both opportunities and challenges, requiring them to draw from prior experience while embracing new pedagogical paradigms to promote equitable science learning.

Development of Culturally Responsive Teacher-support Framework

Fostering equitable teaching across cultures requires a deliberate synthesis of theory, practice, and lived experience. While previous themes highlighted the cross-cultural journeys of Filipino J1 science teachers and their instructional adaptations, this discussion emphasizes how these experiences illuminate strategies for promoting inclusivity and cultural responsiveness in U.S. middle school classrooms. As Shields and El-Amin (2023) argue, equity-driven teaching is not merely a matter of adjusting instructional strategies but of creating systemic pathways that validate and integrate the cultural knowledge of diverse learners. Filipino J1 teachers'

experiences demonstrate that effective cross-cultural teaching relies not only on the skills teachers bring into the classroom but also on how they negotiate, adapt, and integrate their professional and cultural identities within the broader school ecosystem.

Culturally sustaining pedagogy (Paris & Alim, 2022) highlights the importance of instruction that actively preserves and uplifts students' linguistic and cultural identities. Filipino J1 teachers leverage their bicultural experiences to design science lessons that bridge U.S. curricular standards with students' local contexts and prior knowledge. This approach, as emphasized by González and Ramírez (2023), enhances relevance, engagement, and comprehension, particularly for multilingual learners who often struggle to connect abstract science concepts with their lived realities. Beyond bridging content knowledge, contextualized lessons allow students to see themselves reflected in the curriculum, which fosters a sense of belonging and academic confidence. For instance, when science topics are connected to culturally familiar examples or local environmental phenomena, students demonstrate increased curiosity, participation, and critical thinking.

Professional collaboration also emerges as a crucial factor in supporting cross-cultural teaching. Ahn and Kim (2022) stress that teachers are more effective when embedded in supportive professional learning communities that allow for sharing strategies, reflecting on challenges, and co-developing culturally responsive resources. Filipino J1 teachers benefit from collaborative networks within U.S. schools, where exchanging pedagogical and cultural insights with American colleagues transforms individual adaptations into collective commitments to equity. Such collaboration also serves as a source of professional validation, particularly for international teachers who may initially feel isolated or uncertain in navigating unfamiliar school norms. Regular dialogue, mentoring relationships, and co-teaching opportunities enable teachers to refine instructional approaches while building a shared culture of inclusion.

Assessment practices reveal further implications for equitable teaching. Standardized testing in U.S. schools often marginalizes multilingual learners, highlighting the need for assessments that recognize linguistic and cultural diversity (Chen, Martinez, & Delgado, 2023). Filipino J1 teachers employ performance-based tasks, projects, and multimodal assessments that allow students to demonstrate understanding in multiple ways. This approach encourages a shift from deficit-oriented to asset-based perspectives, where students' diverse linguistic and cultural strengths are valued as integral to learning. Moreover, these assessment strategies foster higher-order thinking, creativity, and problem-solving skills, creating a classroom culture in which students feel empowered to experiment, take intellectual risks, and see their identities as assets rather than obstacles.

The development of teacher identity is another key consideration. Tran and Luu (2023) explain that immigrant and international teachers often renegotiate their professional identities in ways that influence confidence, authority, and responsiveness in the classroom. Reflective practices, including journaling, peer mentoring, and intercultural dialogue, help Filipino J1 teachers strengthen their professional belonging while deepening cultural competence. Over time, these reflective practices promote adaptive expertise, allowing teachers to respond thoughtfully to classroom challenges while maintaining authenticity in their teaching. Additionally,

navigating the dual expectations of their home and host cultures equips teachers with resilience, empathy, and flexibility. These qualities benefit both students and the school community.

Technology integration provides further opportunities to support diverse learners. Patel and Wong (2022) highlight that digital platforms can amplify multilingual learners' voices and facilitate differentiated instruction. Filipino J1 science teachers leverage educational technologies such as translation tools, visual simulations, interactive experiments, and collaborative online spaces to scaffold learning and ensure equitable access to science concepts. Beyond simply delivering content, technology enables personalized learning experiences that account for varied learning styles, language proficiency, and cultural knowledge. Teachers' intentional use of digital tools transforms technology from a potential barrier into a mechanism for student empowerment, engagement, and participation.

Family and community engagement is also essential to culturally responsive teaching. Lopez and Vega (2022) argue that equity cannot be achieved without actively involving families, particularly those from immigrant backgrounds. Filipino J1 teachers engage parents through culturally sensitive communication, multilingual newsletters, and science projects that invite family participation. These practices validate families' cultural knowledge while strengthening the home-school connection, which research links to improved student motivation, attendance, and academic achievement. Furthermore, cultivating relationships with local communities allows teachers to contextualize lessons meaningfully, drawing on community expertise, traditions, and environmental knowledge to enrich the learning experience.

Equity in education also involves systemic considerations. Harper and Wells (2023) note that equitable teaching is a structural issue requiring policy engagement. Filipino J1 teachers, drawing on their dual cultural perspectives, advocate for curriculum design, resource allocation, and teacher training practices that support culturally and linguistically diverse learners. Their perspectives are particularly valuable in highlighting gaps between policy and practice, offering actionable insights for creating inclusive classrooms, and promoting institutional accountability for equity. By participating in committees, advisory boards, or professional organizations, teachers extend their influence beyond individual classrooms, contributing to school-wide and district-level transformation.

Ongoing professional development is critical to sustaining culturally responsive teaching. Mendoza and Castillo (2022) found that culturally responsive instruction is most effective when embedded in continuous, practice-based learning rather than one-time workshops. Schools that provide structured opportunities for Filipino J1 teachers to deepen their understanding of equity frameworks, anti-bias education, and intercultural communication not only enhance instructional quality but also foster a shared culture of inclusivity. Professional development that emphasizes reflection, collaboration, and applied practice enables teachers to integrate theory into meaningful classroom action and strengthens school-wide commitments to diversity, equity, and inclusion.

Finally, adaptability is central to the sustainability of culturally responsive teaching. Nguyen (2023) explains that equity work must remain dynamic, evolving alongside changing demographics, policies, and classroom realities. Filipino J1 teachers continuously refine their approaches, respond to emerging challenges, and revisit instructional decisions based on ongoing

reflection and feedback. This iterative process ensures that equity is not a static goal but a living practice that evolves with students' needs, school contexts, and societal shifts.

Contextualized lessons, professional collaboration, inclusive assessments, reflective identity work, technology integration, family engagement, systemic advocacy, continuous professional development, and adaptability highlight the multidimensional strategies Filipino J1 science teachers employ to navigate cross-cultural teaching contexts. Their experiences provide critical insights into fostering inclusive, just, and culturally sustaining educational environments. By centering cultural knowledge, linguistic diversity, and systemic engagement, these teachers exemplify how culturally responsive practices can enhance academic outcomes while promoting equity and belonging for all learners.

Synthesis

The body of literature reviewed in this chapter reveals that the cross-cultural movement of teachers is not merely a geographical transition but a complex professional, pedagogical, and identity-based transformation. Studies on global teacher mobility consistently show that Filipino educators who participate in international programs such as the J1 visa program encounter both opportunity and challenge as they adjust to new institutional norms, student behaviors, curriculum standards, and community expectations. Research emphasizes that these transitions require ongoing adaptation in instructional strategies, classroom management, communication patterns, and professional identity construction. While Filipino teachers are frequently described as resilient and resourceful, their adjustment is shaped by contextual supports, cultural climates, and the degree of institutional mentoring available in host schools.

Parallel scholarship in middle school science education further underscores that instructional adaptation is inherently multidimensional. Effective science teaching in culturally diverse classrooms requires integration of literacy strategies, inquiry-based instruction, technology-enhanced learning, inclusive assessment practices, and culturally responsive curriculum design. Teachers must continuously refine lesson pacing, discourse strategies, and laboratory management approaches to ensure conceptual understanding while maintaining equity and inclusivity. Research also demonstrates that adaptation is deeply influenced by teachers' beliefs about multiculturalism, their commitment to equity, and their openness to intercultural growth. Thus, adaptation in science classrooms extends beyond technical modification; it reflects teachers' philosophical orientations toward diversity and social justice.

The literature on culturally responsive and culturally sustaining pedagogy reinforces the idea that equitable teaching requires deliberate validation of students' linguistic and cultural identities. Professional collaboration, reflective practice, family engagement, and systemic advocacy are identified as critical mechanisms that support teachers in sustaining inclusive instruction. At the same time, scholarship on intercultural teacher identity development highlights that teachers navigating new cultural contexts undergo internal negotiations regarding authority, belonging, professional confidence, and pedagogical values. These identity processes shape how teachers interpret challenges and how deeply they engage in transformative instructional adaptation.

Although the reviewed studies collectively provide rich insights into global teacher mobility, instructional adaptation, and equity-oriented pedagogy, several critical gaps remain evident. First, much of the existing research addresses international teachers broadly across subject areas, without isolating the unique demands of middle school science education—a discipline characterized by inquiry, laboratory practice, and conceptual abstraction. Second, while Filipino teachers abroad have been studied in general migration or resilience contexts, there is limited phenomenological research that centers specifically on Filipino J1 science teachers in U.S. middle schools and explores how they make meaning of their adaptation experiences. Third, many frameworks on culturally responsive pedagogy and cross-cultural teaching remain conceptual, with insufficient grounding in the lived narratives of teachers who actively navigate these complexities.

Therefore, there is a need for an in-depth, qualitative exploration that captures the essence of Filipino J1 science teachers' lived experiences as they adapt instruction within U.S. middle school classrooms. By situating their narratives within Adaptive Cross-Cultural Pedagogy, Culturally Responsive Pedagogy, Intercultural Teacher Identity Development, and beliefs about multiculturalism and polyculturalism, the present study bridges theory and lived reality. It extends existing scholarship by focusing on subject-specific adaptation in science education, foregrounding identity negotiation, and deriving a culturally responsive teacher-support framework grounded in experiential meaning-making.

In synthesis, the literature affirms that cross-cultural instructional adaptation is a dynamic interplay of pedagogy, identity, belief systems, and institutional context. However, the voices of Filipino J1 science teachers remain underrepresented in this discourse. By centering these voices, the present study contributes context-specific, phenomenologically grounded insights that deepen understanding of equitable science teaching across cultures and inform practical supports for international educators in diverse learning environments.

Chapter 3

METHODOLOGY

This study utilized a specific research design, detailed in this section, to examine the construct of interest. It provides comprehensive information on the criteria used to select participants, the process of validating the research instruments, and the protocols followed for data collection.

Research Design

This study employed a qualitative phenomenological research design to explore the lived experiences of Filipino J1 science teachers adapting their instructional practices in U.S. middle schools. Phenomenology is appropriate because it focuses on participants' subjective experiences, uncovering the essence of their perspectives rather than aiming for generalization (Stolz, 2022).

This approach emphasizes interpretive sense-making, requiring the researcher to bracket personal assumptions and focus on how participants articulate their experiences (Creswell & Poth, 2023). It supports inductive analysis, allowing themes and meanings to emerge organically from participants' narratives. This is particularly important in cross-cultural contexts, where adaptation involves both technical adjustments and affective, identity-related dimensions.

The study's phenomenological design aligns with prior research emphasizing the exploration of teachers' lived experiences in cross-cultural contexts (Stolz, 2022; Creswell & Poth, 2023). Purposive sampling, as recommended by Gentles et al. (2022) and Newman and Ramlo (2022), ensured that participants could provide rich and meaningful insights, which guided the selection of ten (10) Filipino J1 science teachers. Semi-structured interviews, supported by Kallio et al. (2022) and Nowell and Albrecht (2022), allowed flexible yet systematic data collection while maintaining consistency across participants. Data analysis followed Moustakas' (1994) transcendental phenomenological method, complemented by Creswell and Poth (2018) and Sundler et al. (2022), to identify significant statements, meaning units, and emergent themes.

Selection of Participants

This study employed purposive sampling, a method suited for qualitative phenomenological research because it prioritizes participants who can provide rich and detailed accounts of their lived experiences (Gentles et al., 2022). Unlike probability sampling, purposive sampling focuses on depth and relevance rather than generalization.

The population consisted of Filipino J1 science teachers currently teaching in U.S. middle schools. These participants were selected based on their direct engagement in navigating cultural and pedagogical differences while adapting their instructional practices abroad. Purposive sampling also allowed for variation in teaching contexts, years of experience, and geographical placements, thereby providing a more nuanced understanding of both shared and unique experiences (Newman and Ramlo, 2022).

In line with phenomenological research recommendations, a total of ten (10) participants were selected, ensuring sufficient depth for meaningful insights while maintaining manageable scope for analysis (Roberts and Chouhan, 2022). This focused participant group provided the foundation for exploring the essence of cross-cultural instructional adaptation and contributed to discussions on culturally responsive pedagogy and teacher development.

Participants of the Study

The study involved ten (10) purposively selected Filipino J1 science teachers currently teaching in U.S. middle schools. Participants were selected based on criteria that ensured their ability to provide rich and meaningful insights into cross-cultural instructional adaptation.

To qualify for inclusion, participants were required to be Filipino citizens holding a J1 visa under the teacher exchange program, with prior experience teaching middle school science in the Philippines and current teaching experience in U.S. middle schools under the same program. In addition, participants had a minimum of two years of teaching experience in both the Philippines and the United States and voluntarily consented to participate in the study.

These criteria ensured that participants possessed substantial experience in both educational contexts, allowing them to clearly articulate their instructional adaptations, challenges, and strategies. Focusing on this group enabled the study to generate in-depth narratives that highlighted how Filipino J1 teachers navigated cultural and pedagogical differences in U.S. middle school science classrooms.

Data Collection Instrument

The primary data collection instrument in this study was a semi-structured interview guide designed to elicit detailed accounts of Filipino J1 science teachers' lived experiences in U.S. middle schools. The guide contained open-ended questions aligned with the study's central and corollary research questions, allowing participants to freely describe their experiences while giving the researcher flexibility to probe, clarify, and explore emerging insights (Nowell and Albrecht, 2022; Kallio et al., 2022).

The interview guide was organized into key areas, including the professional background of participants, experiences of instructional adaptation, challenges encountered in cross-cultural teaching, strategies and supports utilized, and perspectives on fostering culturally responsive teaching. This structure ensured that all relevant dimensions of the phenomenon were explored while maintaining flexibility in capturing participants' unique narratives.

The researcher served as the primary instrument in conjunction with the semi-structured interview guide, which ensured systematic, consistent, and contextually rich data collection. This approach enabled the capture of the nuances and depth of participants' lived experiences, which were essential for phenomenological analysis.

Validation and Reliability of the Instrument

To ensure the validity and reliability of the research instrument, several measures were implemented. First, the semi-structured interview guide underwent expert validation by professionals in education, qualitative research, and cross-cultural pedagogy. The experts reviewed the guide for alignment with the research objectives, clarity of questions, and its ability to elicit rich descriptions of lived experiences. Their feedback was incorporated to refine the structure, phrasing, and sequencing of the questions, thereby ensuring both relevance and comprehensibility (O’Keeffe et al., 2023).

Second, a pilot interview was conducted with one Filipino J1 teacher who met the study’s inclusion criteria but was not included in the final participant pool. This process enabled the researcher to assess the flow of the interview guide, identify ambiguities, and implement necessary revisions. It also allowed the researcher to practice probing and responsive interview techniques, ensuring that participants’ voices remained central throughout the data collection process (Roberts and Castell, 2023).

Reliability was further ensured through the consistent use of the interview protocol, maintenance of a reflexive journal, and the application of member checking during data analysis. Participants were given the opportunity to validate the initial interpretations of their responses, which enhanced credibility and minimized researcher bias (Nowell and Albrecht, 2022). Collectively, these strategies strengthened the trustworthiness of the instrument and ensured that it effectively captured the lived experiences of Filipino J1 science teachers in U.S. middle schools.

Data Generation

A careful and ethical process was followed to ensure that the lived experiences of Filipino J1 science teachers were captured authentically. The researcher obtained approval from the Institutional Ethics Review Committee and secured informed consent from all participants, emphasizing voluntary participation, confidentiality, and the right to withdraw at any time (Birt and Scott, 2022).

The primary method of data collection was semi-structured interviews, which were particularly suited for phenomenological research. This approach allowed participants to share their experiences in depth while giving the researcher the flexibility to explore emerging insights and clarify responses (Long and Johnson, 2023). Interviews were conducted either face-to-face or virtually, depending on participants’ availability, and each session lasted approximately 60 to 90 minutes. With participants’ permission, interviews were audio-recorded, and detailed field notes were taken to capture non-verbal cues, tone, and contextual details.

Prior to the interviews, participants attended a pre-interview orientation where the purpose of the study, expected duration, confidentiality measures, and participants’ rights were explained. This step helped establish trust and created a comfortable environment that encouraged honest and open sharing (O’Reilly and Dogra, 2022).

The interview guide, which had been validated through expert review and pilot testing, organized questions into five key areas: professional background, experiences of instructional

adaptation, challenges encountered, strategies and supports utilized, and perspectives on fostering culturally responsive teaching. While the guide provided structure, the researcher remained attentive to participants' responses and used follow-up questions and probes to elicit richer and more detailed narratives (Kallio et al., 2022).

Throughout the data collection process, the researcher maintained reflexive practices, including journaling thoughts and observations after each interview and noting potential biases to ensure that participants' perspectives remained central (Nowell and Albrecht, 2022). After each interview, transcripts were prepared verbatim, and participants were invited to engage in member checking to verify the accuracy of their statements, clarify meanings, and expand on earlier points. This collaborative process strengthened the credibility and trustworthiness of the data (Roberts and Castell, 2023).

Data Analysis

The analysis of data in this study followed the principles of phenomenological research, with the goal of understanding the lived experiences of Filipino J1 science teachers and capturing the meanings behind their narratives. Specifically, the study employed Moustakas' (1994) transcendental phenomenological approach, supported by contemporary guidelines for qualitative analysis (Creswell and Poth, 2018; Sundler et al., 2022).

The first step involved data preparation. All interviews were transcribed verbatim, and field notes and reflexive journals were organized. The researcher read each transcript multiple times to achieve immersion in the participants' experiences and to gain a comprehensive understanding of their perspectives (Nowell and Albrecht, 2022).

Next, initial coding was conducted by examining the transcripts line by line to identify significant statements, also referred to as meaning units, that reflected the participants' experiences. These statements were then grouped into preliminary categories through open coding (Kiger and Varpio, 2022).

The researcher then applied horizontalization by treating each statement with equal value before clustering similar ideas into broader themes. Redundant or overlapping statements were eliminated, retaining only those that were essential to the phenomenon. From these, textural descriptions (what the participants experienced) and structural descriptions (how they experienced it) were developed. These descriptions were then synthesized to derive the essence of the phenomenon (Moustakas, 1994; Sundler et al., 2022).

To ensure credibility and trustworthiness, several strategies were employed. Participants were invited to review the preliminary findings through member checking, providing opportunities to confirm accuracy and clarify their statements. The researcher also conducted peer debriefing with qualitative research experts and maintained a reflexive journal to monitor evolving insights and potential biases (Roberts and Castell, 2023).

Through this analytical process, the study provided a rich and comprehensive description of how Filipino J1 science teachers adapted their instructional practices in U.S. middle schools. The analysis revealed both shared patterns and individual variations, offering insights into

pedagogical adaptation, cross-cultural challenges, and strategies for culturally responsive teaching.

Ethical Considerations

This study adhered to established ethical standards to protect the rights, well-being, and dignity of all participants. Prior to data collection, approval was secured from the appropriate Institutional Review Board or Ethics Committee to ensure that all procedures complied with guidelines for research involving human participants (Birt and Scott, 2022).

Participation was entirely voluntary, and each participant was informed of their right to withdraw from the study at any time without penalty. Written informed consent was obtained, clearly outlining the study's purpose, procedures, expected duration, potential risks, and anticipated benefits (Orb, Eisenhauer, and Wynaden, 2022). This ensured that participants made fully informed decisions regarding their involvement.

Confidentiality was strictly maintained throughout the study. Personal identifiers such as names, school affiliations, and other sensitive information were coded or anonymized. All audio recordings, transcripts, and field notes were securely stored in password-protected files accessible only to the researcher. Findings were reported in a manner that prevented identification of participants (Nowell and Albrecht, 2022).

During the interviews, the researcher fostered a supportive and non-judgmental environment that encouraged open and honest sharing. Participants were allowed to skip any questions that made them uncomfortable. The researcher also remained sensitive to cultural norms and values, ensuring that all interactions were respectful and appropriate (O'Reilly and Dogra, 2022).

To maintain research integrity, the researcher kept a reflexive journal to document personal assumptions and potential biases throughout the study. This practice ensured that interpretations remained grounded in the participants' perspectives rather than the researcher's own viewpoints (Nowell and Albrecht, 2022).

Overall, all data collection, handling, and reporting procedures were conducted responsibly, with participants' rights and dignity prioritized. The study generated meaningful insights into the experiences of Filipino J1 science teachers in U.S. middle schools while upholding ethical research standards.

CHAPTER 4

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter presents the findings and interpretations derived from the lived experiences of Filipino J-1 science teachers in adapting their instructional practices while teaching in U.S. middle schools. The data gathered through semi-structured interviews were analyzed using Moustakas' transcendental phenomenological approach, which involved identifying significant statements, formulating meanings, clustering themes, and synthesizing the essence of the participants' experiences. The presentation of findings is organized according to the central and corollary research questions of the study.

Central Question

This section presents the findings related to the central question: What are the lived experiences of Filipino J-1 science teachers in adapting their instructional practices while teaching in U.S. middle schools?

To understand the essence of the participants' experiences, the researcher examined the narratives shared during the semi-structured interviews. Significant statements were identified to capture the participants' actual experiences, emotions, adjustments, and reflections as they navigated cultural and pedagogical transitions in U.S. middle school classrooms. These statements became the basis for the formulation of meanings and the emergence of themes that describe the phenomenon of instructional adaptation.

Table 1. *Significant Statements on the Lived Experiences of Filipino J-1 Science Teachers in Adapting Instructional Practices in U.S. Middle Schools*

Participant	Significant Statement
P1	My first experience teaching in the U.S. was overwhelming but exciting because students were encouraged to express their opinions freely.
P2	Students in U.S. classrooms are more independent and are expected to take ownership of their learning.
P3	I had to incorporate more collaborative and project-based learning activities compared to my previous teaching experience.
P4	Technology plays a major role in classroom instruction in the U.S., which required me to adjust my teaching strategies.
P5	I needed to implement differentiated instruction to address the diverse learning needs of students.
P6	Teaching in classrooms with students who have different learning needs required me to modify my instructional approach.

- P7 The learning environment encourages active student participation and inquiry-based activities.
- P8 Lessons are designed to promote exploration, critical thinking, and student engagement.
- P9 Students are very expressive and interactive during classroom discussions.
- P10 I incorporated more student-led activities and collaborative learning strategies.
-

The narratives of the participants revealed that adapting to the U.S. middle school environment was both professionally challenging and personally transformative. Many participants described their initial teaching experiences as overwhelming due to the differences in classroom culture, communication styles, and instructional expectations. At the same time, they also expressed feelings of excitement and curiosity as they gradually became immersed in a more student-centered and interactive learning environment.

Participant 1 shared that the freedom given to students to openly express their opinions was both unfamiliar and motivating. For several participants, this shift required them to move away from teacher-directed instruction and become facilitators of learning. Participants described how students were encouraged to ask questions, participate in discussions, collaborate with peers, and take responsibility for their own learning. These experiences challenged the participants to rethink their previous teaching practices and become more flexible in managing classroom interactions.

The participants also narrated how instructional adaptation extended beyond teaching strategies and involved emotional adjustment and continuous self-reflection. Participant 3 explained that collaborative and project-based learning became more prominent in the classroom, which required additional preparation and creativity in lesson delivery. Similarly, Participant 7 emphasized that inquiry-based activities and active participation were consistently expected from students, creating a classroom atmosphere that valued exploration and critical thinking.

Technology integration also emerged as a significant part of the participants' lived experiences. Participant 4 expressed that the extensive use of digital tools initially created pressure and uncertainty, especially when adjusting to unfamiliar educational platforms and technology-driven instruction. However, participants eventually recognized technology as an essential tool for increasing student engagement and improving classroom interaction.

Another meaningful aspect of the participants' experiences was the challenge of teaching diverse learners. Participants 5 and 6 shared that they needed to continuously modify their instructional approaches to accommodate students with different learning abilities, backgrounds, and educational needs. These experiences pushed them to become more patient, observant, and responsive in designing inclusive learning activities.

Across the participants' narratives, the experience of instructional adaptation reflected a journey of adjustment, resilience, and professional growth. Although the transition involved uncertainty and cultural differences, the participants gradually developed confidence,

adaptability, and a deeper understanding of culturally responsive teaching. Their experiences revealed that adapting instructional practices in U.S. middle schools was not merely a technical adjustment in teaching methods, but a transformative process that reshaped their perspectives, professional identities, and approaches to student learning.

Participants' Experiences in Navigating Cultural and Pedagogical Challenges in U.S. Middle School Science Classrooms

This section addresses the first corollary question: How do Filipino J-1 science teachers describe their significant experiences in navigating cultural and pedagogical challenges in U.S. middle school science classrooms?

To answer this question, the narratives shared by the participants were carefully examined and organized into experiential descriptions and corresponding codes. These narratives reflected how the participants encountered, interpreted, and responded to the cultural and pedagogical adjustments required in U.S. middle school science classrooms. Their experiences revealed not only instructional changes but also emotional adjustments, professional realizations, and evolving perspectives toward teaching and learning.

Table 2. *Participants' Experiences in Navigating Cultural and Pedagogical Challenges in U.S. Middle School Science Classrooms*

Participant	Description of Experience	Code
P1	Students communicate differently and openly express their ideas in class.	Cultural communication adjustment
P2	Classroom dynamics required teachers to facilitate rather than dominate discussions.	Pedagogical role transition
P3	Collaboration and project-based learning were emphasized more than lectures.	Inquiry-based pedagogy
P4	Diverse cultural backgrounds among students required sensitivity and flexibility.	Cultural diversity awareness
P5	Students were encouraged to question and challenge ideas.	Critical thinking culture
P6	Teachers needed to accommodate students with special educational needs.	Inclusive teaching
P7	Active participation and investigation were expected in classroom activities.	Student-centered learning
P8	Technology integration was essential for instructional delivery.	Digital pedagogy adaptation

P9	Students were highly engaged and expressive in classroom discussions.	Interactive learning culture
P10	Teaching required designing activities that allowed students to lead learning.	Student-led instruction

The participants described their experiences in U.S. middle school classrooms as a continuous process of adjustment, discovery, and transformation. For many of them, one of the earliest challenges involved adapting to a classroom culture where students were highly expressive, interactive, and encouraged to openly communicate their thoughts and opinions. Unlike their previous teaching experiences in the Philippines, participants encountered students who confidently questioned ideas, participated actively in discussions, and expected collaborative interaction inside the classroom. While some participants initially felt overwhelmed and uncertain, they gradually learned to appreciate the openness and engagement demonstrated by students.

Participant 1 described how classroom communication in the United States differed significantly from what she previously experienced. The participant expressed that students were more vocal and comfortable sharing their perspectives, which required patience, flexibility, and adjustment in classroom management. Similarly, Participant 9 shared that students' active participation created a more dynamic learning environment where discussions became more interactive and student-driven.

Several participants also narrated how their teaching roles shifted from being primary sources of information to facilitators of learning. Participant 2 explained that instead of dominating classroom discussions, teachers were expected to guide conversations and encourage students to explore ideas independently. This transition challenged participants to redesign lessons that promoted collaboration, inquiry, and critical thinking rather than memorization and passive learning.

The participants likewise emphasized the increasing importance of inquiry-based and project-based learning approaches. Participant 3 explained that collaborative activities became central to science instruction, requiring greater creativity and preparation in lesson planning. Participants shared that students were expected to investigate, analyze, and solve problems actively, creating a classroom atmosphere focused on exploration and experiential learning.

Another meaningful experience described by the participants involved navigating culturally diverse learning environments. Participant 4 expressed that teaching students from different cultural backgrounds required sensitivity, openness, and awareness of individual differences. Participants shared that cultural diversity influenced communication styles, classroom interactions, and learning behaviors, which pushed them to become more understanding and adaptable in their instructional practices.

Inclusive teaching also emerged as a significant challenge and learning experience. Participant 6 explained that accommodating students with special educational needs required modifying teaching strategies, pacing, and classroom activities to ensure that all learners could

participate meaningfully. Participants described how these experiences strengthened their patience, empathy, and responsiveness toward students with varied abilities and needs.

Technology integration was another area that required substantial adjustment. Participant 8 shared those digital platforms and educational technologies were consistently used in instructional delivery, assessment, and classroom interaction. Some participants initially experienced difficulty adjusting to technology-driven instruction; however, over time, they developed confidence and competence in integrating digital tools into their teaching practices.

Across all narratives, the experiences of Filipino J-1 science teachers reflected a process of cultural adjustment, pedagogical transition, and professional growth. Although participants encountered unfamiliar classroom expectations and instructional demands, these experiences gradually became opportunities for self-reflection, adaptability, and professional transformation. The participants' narratives revealed that navigating cultural and pedagogical challenges was not only about adjusting teaching strategies but also about reshaping their perspectives, identities, and approaches to teaching in culturally diverse educational environments.

The findings revealed that Filipino J-1 science teachers described their significant experiences as a continuous process of cultural adjustment, pedagogical transition, and professional transformation. Participants encountered substantial differences in classroom communication, instructional delivery, student engagement, cultural diversity, inclusive education, and technology integration upon entering U.S. middle school science classrooms. Although these differences initially created uncertainty and professional challenges, the participants gradually adapted by embracing student-centered instruction, inquiry-based learning, culturally responsive practices, and technology-enhanced teaching. Their experiences illustrate that successful adaptation involved not only acquiring new instructional strategies but also developing greater flexibility, intercultural competence, and responsiveness to diverse learners.

These findings directly answer the first corollary research question by demonstrating that the participants' significant experiences were characterized by continuous learning, reflection, and adaptation as they navigated unfamiliar cultural and pedagogical environments. The teachers described their experiences as opportunities for professional growth, where they redefined their instructional roles from knowledge transmitters to facilitators of learning while simultaneously developing greater awareness of cultural diversity, inclusive education, and learner-centered pedagogy.

The findings support Villaver's (2024) Adaptive Cross-Cultural Pedagogy Theory, which explains that Filipino teachers teaching abroad continually modify their instructional practices and classroom management approaches to respond effectively to culturally diverse educational settings. Likewise, the participants' experiences affirm the findings of Macapagong, Maguate, and Geroso (2023), who reported that Filipino teachers working in the United States experience cultural adjustment, changes in classroom expectations, and professional adaptation while gradually developing resilience and effective coping strategies. Furthermore, the findings are consistent with Castroverde et al. (2024), who emphasized that effective science instruction in U.S. classrooms requires inquiry-based, collaborative, and culturally relevant teaching approaches that actively engage students in meaningful learning experiences. Together, these

studies reinforce the present findings that successful adaptation is achieved through continuous professional learning, cultural responsiveness, and reflective instructional practice.

Overall, the findings highlight that navigating cultural and pedagogical challenges extends beyond adjusting classroom techniques; it is a transformative professional experience that reshapes teachers' instructional philosophies, professional identities, and intercultural competence. These experiences provide valuable evidence for developing culturally responsive teacher preparation and support programs that can facilitate the successful transition of Filipino J-1 science teachers into culturally diverse educational environments.

Formulated Meanings Derived from Participants' Experiences

This section addresses the second corollary question: What meanings can be derived from the participants' descriptions of their experiences?

To answer this question, the significant statements gathered from the participants were carefully examined and interpreted to formulate meanings that captured the essence of their lived experiences. These formulated meanings reflected how Filipino J-1 science teachers understood, interpreted, and gave meaning to their instructional adjustments, cultural transitions, and professional growth while teaching in U.S. middle school classrooms.

Table 3. *Formulated Meanings Derived from Participants' Experiences*

Significant Statement	Formulated Meaning
Students express opinions more freely.	U.S. classrooms encourage student voice and open communication.
Students take ownership of learning.	Learning environments promote student autonomy.
Teachers shifted from lecture to inquiry-based strategies.	Instructional practices emphasize student-centered learning.
Technology integration is widely used in teaching.	Digital tools are essential components of modern instruction.
Teachers implemented differentiated instruction.	Teaching strategies must address diverse learning needs.
Students participate actively in classroom discussions.	Interactive learning environments are common in U.S. schools.
Teachers redesigned lessons to encourage exploration.	Instruction prioritizes critical thinking and inquiry.
Cultural differences influence classroom interaction.	Teachers must adapt to new cultural communication norms.
Mentorship and support helped teachers	Professional support systems facilitate teacher

adapt.

Teachers developed resilience and adaptability.

adjustment.

Cross-cultural teaching fosters professional growth.

The formulated meanings derived from the participants' narratives revealed that the experiences of Filipino J-1 science teachers extended far beyond instructional adjustment alone. Their experiences reflected a deeper process of cultural adaptation, self-reflection, professional transformation, and evolving perspectives toward teaching and learning. As participants navigated unfamiliar classroom environments, they gradually developed new understandings about student engagement, communication, diversity, and their roles as educators.

One of the most meaningful realizations shared by the participants was the importance of student voice and autonomy in the learning process. Participants observed that students in U.S. classrooms were encouraged to express opinions, ask questions, and actively participate in discussions. For many participants, this initially required a major adjustment because students were more independent, vocal, and involved in classroom decision-making. Over time, participants began to appreciate how open communication created a more engaging and collaborative learning environment.

The participants also recognized that instructional practices in U.S. middle schools strongly emphasized inquiry, exploration, and active participation. Rather than relying heavily on lectures, participants found themselves redesigning lessons to promote collaboration, investigation, and critical thinking. These experiences challenged them to become more creative, flexible, and student-centered in their instructional approaches. Participants gradually realized that meaningful learning occurred when students were given opportunities to discover concepts, solve problems, and participate actively in the learning process.

Technology integration likewise emerged as an important meaning embedded in the participants' experiences. Participants described how digital tools became essential in lesson delivery, classroom communication, assessment, and student engagement. Although some initially experienced difficulty adapting to technology-driven instruction, they eventually recognized technology as a valuable tool that enhanced interaction and supported diverse learning needs.

Another significant meaning derived from the narratives was the importance of inclusivity and responsiveness in teaching. Participants realized that students possessed different cultural backgrounds, learning abilities, communication styles, and educational needs. These experiences taught them to become more patient, observant, and adaptive in designing instructional activities that accommodated all learners. Participants described how differentiated instruction became necessary to ensure that every student could participate meaningfully in classroom activities.

The participants also reflected on the emotional and professional adjustments associated with cross-cultural teaching. Many described feelings of uncertainty, pressure, and self-doubt during their initial transition to U.S. classrooms. However, mentorship, collegial support, and

continuous learning helped them gradually adapt to unfamiliar expectations and teaching practices. Through these experiences, participants developed resilience, confidence, and stronger intercultural understanding.

Across all narratives, the formulated meanings revealed that instructional adaptation was not simply a matter of changing teaching techniques. Rather, it represented a transformative process that reshaped participants' professional identities, cultural perspectives, and approaches to student learning. Their experiences reflected a journey of adjustment and growth in which challenges became opportunities for reflection, learning, and professional development. These formulated meanings served as the foundation for identifying the emergent themes presented in the succeeding section.

The formulated meanings derived from the participants' experiences revealed that instructional adaptation involved a holistic process of cultural adjustment, pedagogical transformation, emotional resilience, and professional development. Participants interpreted their experiences as opportunities to rethink their instructional beliefs, embrace student-centered learning, integrate technology, respond to diverse learner needs, and cultivate greater intercultural awareness. Their narratives demonstrated that adapting to U.S. middle school science classrooms required continuous reflection and the willingness to modify long-established teaching practices in response to a new educational environment.

These findings directly answer the second corollary research question by demonstrating that the meanings participants derived from their experiences centered on the development of new professional understandings regarding teaching, learning, and cultural responsiveness. The participants viewed their instructional adjustments not merely as responses to external demands but as meaningful experiences that strengthened their confidence, broadened their pedagogical perspectives, and reinforced their commitment to equitable and inclusive science education.

The present findings support the Intercultural Teacher Identity Development Theory of Yazan and Lindahl (2023), which explains that teachers reconstruct their professional identities as they negotiate new cultural, institutional, and pedagogical contexts. Likewise, the findings are consistent with the work of Park, Lee, and Chang (2023), who emphasized that teachers who embrace multiculturalism and cultural diversity are more likely to adopt responsive instructional practices that promote equitable learning opportunities for all students. Furthermore, the findings affirm the study of Rushton et al. (2023), which reported that teaching in intercultural environments encourages educators to engage in continuous self-reflection, professional learning, and identity reconstruction as they respond to unfamiliar educational expectations. Collectively, these studies reinforce the present findings that the meanings derived from instructional adaptation extend beyond classroom practice to encompass professional identity, cultural competence, and lifelong learning.

Overall, the findings indicate that the participants' interpretations of their experiences reflect a transformative learning journey characterized by reflection, adaptability, and intercultural growth. The meanings they constructed illustrate that successful cross-cultural teaching is grounded not only in effective instructional strategies but also in the capacity to embrace diversity, respond to learners' varied needs, and continually redefine one's professional

identity. These insights provide a strong conceptual foundation for the emergence of the overarching themes presented in the succeeding section.

Emergent Themes from the Formulated Meanings

This section addresses the third corollary question: What themes emerge from the formulated meanings identified in the study?

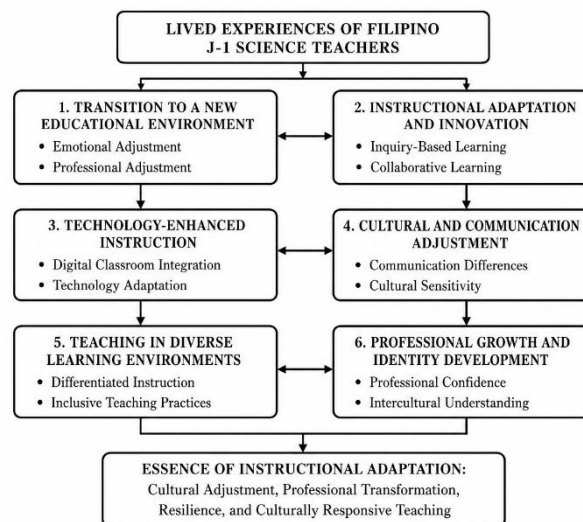
To answer this question, the formulated meanings derived from the participants' narratives were clustered, analyzed, and synthesized to identify the major themes and subthemes that captured the essence of the lived experiences of Filipino J-1 science teachers in adapting their instructional practices in U.S. middle schools. These themes reflected the common patterns of emotional adjustment, pedagogical transition, cultural adaptation, technological integration, and professional transformation experienced by the participants throughout their cross-cultural teaching journey.

Table 4. *Emergent Themes from the Formulated Meanings*

Theme	Subtheme	Description
Transition to a New Educational Environment	Emotional Adjustment	Teachers experienced feelings of uncertainty, pressure, and adjustment in unfamiliar classroom settings.
	Professional Adjustment	Teachers adapted to new educational expectations and institutional practices in U.S. schools.
Instructional Adaptation and Innovation	Inquiry-Based Learning	Teachers shifted toward student-centered and inquiry-based instructional approaches.
	Collaborative Learning	Teachers integrated project-based and collaborative learning activities into classroom instruction.
Technology-Enhanced Instruction	Digital Classroom Integration	Teachers utilized digital tools and online platforms for instruction and assessment.
	Technology Adaptation	Teachers adjusted to technology-driven teaching and learning environments.
Cultural and Communication Adjustment	Communication Differences	Teachers adapted to more expressive and interactive student communication styles.
	Cultural Sensitivity	Teachers developed awareness and responsiveness toward culturally diverse

Theme	Subtheme	Description
		learners.
Teaching in Diverse Learning Environments	Differentiated Instruction	Teachers modified instructional strategies to address varied learning needs.
	Inclusive Teaching Practices	Teachers implemented inclusive classroom approaches that supported learner participation.
Professional Growth and Identity Development	Professional Confidence	Teachers developed resilience, adaptability, and confidence in teaching abroad.
	Intercultural Understanding	Teachers broadened their perspectives on teaching, diversity, and cultural responsiveness.

Figure 2. *Thematic Map of the Lived Experiences of Filipino J-1 Science Teachers*



The themes that emerged from the participants' narratives reflected the complex and transformative nature of adapting to a new educational and cultural environment. Although each participant described unique experiences, common patterns of adjustment, challenge, growth, and professional transformation became evident across their stories. These themes captured not only the instructional changes experienced by the participants but also the emotional and personal meanings attached to their cross-cultural teaching journeys.

The first theme, transition to a new educational environment, reflected the participants' initial experiences of uncertainty, pressure, and adjustment as they entered unfamiliar classroom settings in the United States. Participants described feeling overwhelmed during their early

teaching experiences due to differences in school culture, student behavior, classroom expectations, and communication styles. Some participants expressed feelings of nervousness and self-doubt as they tried to adapt to new educational practices while maintaining confidence in their professional abilities. Despite these challenges, participants gradually learned to navigate the new environment and became more comfortable in their teaching roles.

The second theme, instructional adaptation and innovation, highlighted the significant pedagogical adjustments made by the participants. Many participants shared that they needed to redesign their teaching strategies to align with inquiry-based, collaborative, and student-centered learning approaches commonly practiced in U.S. middle school classrooms. Rather than relying heavily on lectures, participants found themselves facilitating discussions, encouraging student participation, and designing activities that promoted exploration and critical thinking. These experiences pushed participants to become more flexible, creative, and reflective in their instructional practices.

The third theme, technology-enhanced instruction, revealed the important role of digital technology in classroom teaching and learning. Participants described how technology became an essential part of lesson delivery, communication, assessment, and student engagement. Some participants initially struggled with unfamiliar digital platforms and technology-driven instruction, which caused feelings of pressure and adjustment difficulties. However, over time, participants developed confidence in integrating technology into their classrooms and recognized its value in enhancing learning experiences and student participation.

Another important theme, cultural and communication adjustment, reflected the participants' experiences in adapting to culturally diverse classroom interactions. Participants observed that students in U.S. classrooms were generally more expressive, interactive, and comfortable sharing their ideas openly. This differed from their previous experiences in the Philippines, where classroom communication was often more formal and teacher-directed. Participants shared that they needed to adjust their communication styles, classroom management approaches, and responses to student behavior in order to build stronger relationships and maintain productive classroom interactions.

The fifth theme, teaching in diverse learning environments, emphasized the participants' experiences in addressing the needs of students with varying cultural backgrounds, abilities, and learning styles. Participants described how inclusive teaching became an important aspect of their instructional practices. They shared experiences of modifying lessons, adjusting activities, and providing differentiated instruction to ensure that all students could participate meaningfully in classroom learning. These experiences strengthened participants' patience, empathy, and awareness of learner diversity.

The final theme, professional growth and identity development, reflected the participants' realization that teaching abroad contributed significantly to their personal and professional transformation. Despite experiencing challenges, participants described becoming more resilient, adaptable, and confident as educators. They recognized that navigating cultural and pedagogical differences broadened their perspectives about teaching, learning, and intercultural understanding. Several participants shared that the experience strengthened their sense of

professionalism and helped them develop a deeper appreciation of culturally responsive teaching practices.

Taken together, these themes revealed that the instructional adaptation of Filipino J-1 science teachers was not simply a technical adjustment in teaching methods but a holistic process of cultural transition, emotional adjustment, professional reflection, and personal growth. The participants' lived experiences illustrated how cross-cultural teaching required continuous learning, openness to change, and the ability to navigate unfamiliar educational environments while maintaining commitment to effective and inclusive teaching practices.

The thematic analysis identified six interrelated themes that collectively describe the lived experiences of Filipino J-1 science teachers as they adapted to teaching in U.S. middle school science classrooms: transition to a new educational environment, instructional adaptation and innovation, technology-enhanced instruction, cultural and communication adjustment, teaching in diverse learning environments, and professional growth and identity development. These themes demonstrate that instructional adaptation is a multifaceted process encompassing emotional adjustment, pedagogical innovation, technological competence, cultural responsiveness, inclusive teaching, and the continuous development of professional identity. Together, they illustrate the participants' progression from initial uncertainty to confidence as they successfully navigated the demands of cross-cultural teaching.

These findings directly answer the third corollary research question by identifying the major themes that emerged from the participants' formulated meanings. The themes reveal that the participants' experiences were interconnected rather than isolated, with each aspect of adaptation contributing to their overall professional transformation. Their narratives demonstrate that successful adaptation in U.S. middle school science classrooms required not only modifications in instructional practices but also emotional resilience, intercultural competence, reflective practice, and a sustained commitment to learner-centered and inclusive education.

The findings support the Adaptive Cross-Cultural Pedagogy Theory proposed by Villaver (2024), which emphasizes that instructional adaptation in international teaching contexts is a continuous process involving pedagogical flexibility, cultural responsiveness, and reflective professional practice. Likewise, the identified themes align with the principles of Culturally Responsive Pedagogy discussed by Caingcoy (2023), which highlight the importance of recognizing learners' cultural diversity and implementing equitable, inclusive, and student-centered instructional practices. Furthermore, the emergence of the theme on professional growth and identity development is consistent with the Intercultural Teacher Identity Development Theory of Yazan and Lindahl (2023), which explains that teachers reconstruct their professional identities through sustained engagement with new cultural, institutional, and pedagogical environments. These theoretical perspectives collectively reinforce the present findings by demonstrating that successful cross-cultural teaching involves the integration of pedagogical competence, cultural awareness, and professional identity development.

Overall, the emergent themes demonstrate that the instructional adaptation of Filipino J-1 science teachers is a transformative and holistic process rather than a series of isolated instructional adjustments. The themes illustrate how cross-cultural teaching promotes resilience, innovation, intercultural understanding, and professional growth while strengthening teachers'

capacity to provide equitable, culturally responsive, and inclusive science instruction. These findings provide a comprehensive conceptual foundation for the development of the culturally responsive teacher-support framework presented in the succeeding section.

Essence of the Lived Experience

The lived experiences of Filipino J-1 science teachers reflected a transformative journey marked by uncertainty, cultural adjustment, instructional adaptation, and professional growth. Participants entered U.S. middle school classrooms carrying prior teaching experiences and educational practices shaped by the Philippine educational system. However, they encountered learning environments that emphasized student autonomy, inquiry-based learning, cultural diversity, open communication, and technology-driven instruction.

During the early stages of transition, many participants experienced feelings of pressure, nervousness, self-doubt, and unfamiliarity as they attempted to adapt to new classroom expectations and communication styles. Students were more expressive, interactive, and independent, requiring teachers to rethink their instructional approaches, classroom management strategies, and professional roles. Despite these challenges, participants gradually developed resilience, confidence, flexibility, and intercultural understanding through continuous reflection, collaboration, and lived experience.

Across the narratives, instructional adaptation emerged not merely as a technical adjustment in teaching strategies but as a deeply personal and professional transformation. The participants' experiences revealed that teaching in cross-cultural settings requires emotional resilience, openness to change, cultural sensitivity, and commitment to inclusive and student-centered learning. Ultimately, the experience reshaped participants' professional identities, broadened their educational perspectives, and strengthened their capacity to teach effectively in culturally diverse learning environments.

Culturally Responsive Teacher-Support Framework

This section addresses the fourth corollary question: What culturally responsive teacher-support framework can be developed to assist Filipino J-1 science teachers in U.S. middle schools?

The lived experiences shared by the participants revealed that adapting to U.S. middle school classrooms required more than instructional adjustment alone. Participants described the need for continuous support as they navigated unfamiliar classroom cultures, teaching expectations, communication styles, diverse student needs, and emotionally demanding transitions associated with teaching in a foreign educational environment. Their experiences highlighted the importance of developing a structured support system that addresses not only instructional competencies but also the emotional, cultural, technological, and professional dimensions of cross-cultural teaching.

The findings of the study demonstrated that Filipino J-1 science teachers encountered significant transitions in classroom communication, instructional delivery, classroom management, student engagement, and professional expectations. Although participants initially experienced uncertainty, pressure, and adjustment difficulties, they gradually developed

resilience, adaptability, and culturally responsive teaching practices through continuous learning, reflection, and institutional support. These experiences served as the foundation for the development of the proposed Culturally Responsive Teacher-Support Framework.

Introduction of the Framework

The proposed Culturally Responsive Teacher-Support Framework was developed from the emergent themes and formulated meanings derived from the participants' lived experiences. The framework aims to provide organized and responsive support mechanisms that assist Filipino J-1 science teachers in adapting effectively to culturally diverse educational environments in U.S. middle schools.

The framework recognizes that instructional adaptation in cross-cultural settings is a multidimensional process involving cultural adjustment, pedagogical transition, technology integration, inclusive teaching, emotional resilience, and professional identity development. It emphasizes that successful international teaching requires not only mastery of instructional content and strategies but also cultural competence, emotional preparedness, and continuous professional support.

Moreover, the framework highlights the importance of institutional responsibility in supporting international teachers. It recognizes that schools, administrators, mentors, and professional learning communities play essential roles in helping Filipino J-1 science teachers transition effectively into U.S. educational settings. Through organized interventions and support systems, international teachers may become more confident, culturally responsive, and professionally equipped to teach in diverse classrooms.

Rationale of the Framework

The rationale for the development of the framework emerged directly from the participants' narratives and experiences of adaptation. The findings revealed that Filipino J-1 science teachers encountered substantial challenges related to cultural adjustment, instructional transition, communication styles, technology-driven instruction, inclusive classroom practices, and professional adaptation.

One of the most prominent challenges identified by the participants involved cultural adjustment in classroom interaction. Participants described difficulties adapting to students who were highly expressive, independent, interactive, and comfortable questioning ideas during classroom discussions. These communication styles differed significantly from participants' previous experiences in Philippine classrooms, where interactions were often more formal and teacher-directed. The participants recognized that understanding cultural behaviors and communication norms was essential in establishing positive classroom relationships and maintaining effective classroom management.

The findings also revealed substantial pedagogical transitions experienced by the participants. Teachers shifted from lecture-based instruction toward inquiry-based, collaborative, and student-centered learning approaches. Participants shared that they needed to redesign lessons, facilitate collaborative learning activities, encourage classroom discussions, and promote

student autonomy. These adjustments required additional preparation, creativity, and flexibility in instructional delivery.

Technology integration likewise emerged as a major area of adjustment. Participants explained that digital tools, learning management systems, online assessments, and educational technologies became integral parts of classroom instruction and communication. Some participants initially experienced feelings of pressure and uncertainty due to unfamiliarity with technology-driven teaching environments. However, through continuous practice and assistance from colleagues, participants gradually developed confidence in integrating technology into classroom instruction.

Inclusive teaching also became a significant concern among participants. Teachers encountered students with diverse cultural backgrounds, learning abilities, educational needs, and communication styles. These experiences required participants to modify instructional activities, differentiate lessons, adjust classroom pacing, and create more inclusive learning environments that accommodated all learners.

Additionally, participants highlighted the importance of mentorship, collegial support, and administrative guidance during the adjustment process. Several participants shared that emotional encouragement, professional advice, and peer collaboration significantly reduced feelings of stress, isolation, and uncertainty while adapting to new educational environments.

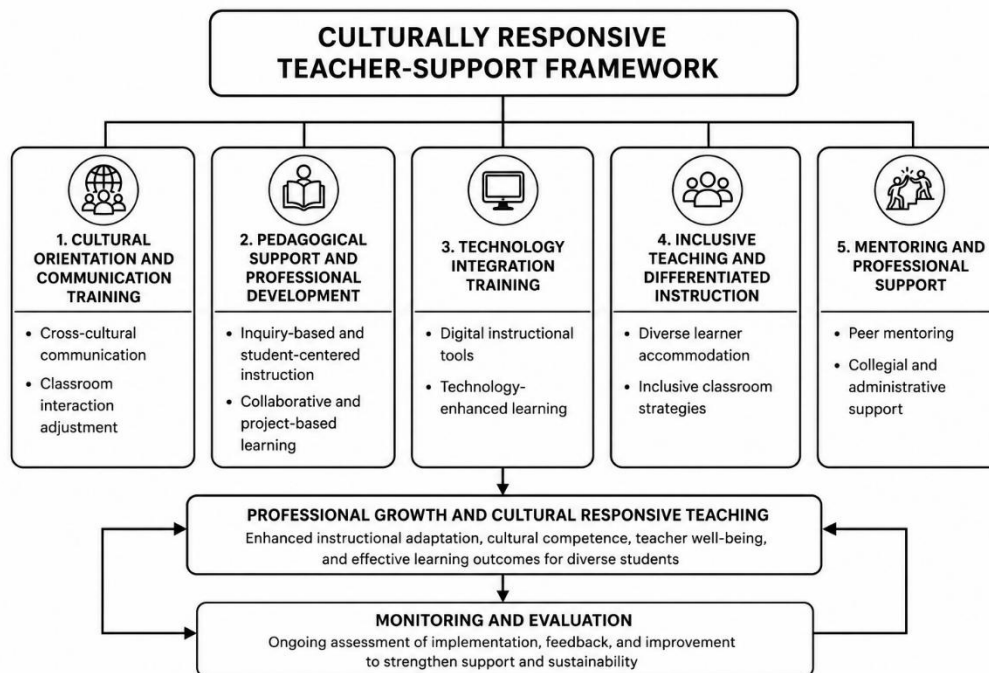
These collective experiences established the need for a comprehensive and culturally responsive support framework that addresses both the professional and emotional needs of Filipino J-1 science teachers. The framework was therefore designed to strengthen teachers' cultural responsiveness, instructional competence, technological readiness, emotional resilience, and professional confidence while teaching in culturally diverse educational settings.

Objectives of the Framework

The proposed framework specifically aims to:

1. Strengthen cultural adjustment and cross-cultural communication among Filipino J-1 science teachers;
2. Enhance teachers' competence in inquiry-based, collaborative, and student-centered instructional practices;
3. Improve teachers' technological readiness and digital instructional competence;
4. Promote inclusive teaching practices and differentiated instruction for culturally and academically diverse learners;
5. Provide structured mentoring and peer-support systems that offer instructional and emotional guidance;
6. Foster resilience, adaptability, and professional confidence among international teachers; and
7. Promote culturally responsive teaching practices that support inclusive and equitable learning environments.

Figure 3. *Culturally Responsive Teacher-Support Framework*



The proposed framework emphasizes five major support components necessary for Filipino J-1 science teachers adapting to U.S. middle school classrooms.

The first component focuses on cultural orientation and communication training. Participants experienced difficulties adjusting to students who were more expressive, independent, and interactive during classroom discussions. Many participants initially struggled to manage highly participative classroom environments because these differed significantly from their previous experiences in the Philippines. Through cultural orientation and communication training, teachers may develop greater awareness of student behaviors, intercultural communication styles, classroom expectations, and culturally responsive interaction practices. This component strengthens teachers' cultural sensitivity and improves their ability to establish positive relationships with diverse learners.

The second component involves pedagogical support and professional development. Participants described substantial instructional adjustments as they transitioned from teacher-centered approaches to inquiry-based and student-centered instruction. Teachers needed to redesign lessons, facilitate collaborative learning, encourage critical thinking, and create classroom activities that promoted student engagement and autonomy. Professional development programs focusing on inquiry-based learning, project-based instruction, collaborative learning, and classroom facilitation may help teachers adapt more effectively to U.S. educational practices and instructional expectations.

The third component highlights technology integration training. Participants explained that educational technology became a major part of instructional delivery, assessment, classroom communication, and student engagement. Some participants initially experienced feelings of

pressure and uncertainty because of unfamiliar digital learning systems and technology-driven instruction. Technology training programs may strengthen teachers' competence in utilizing online learning platforms, digital instructional tools, and technology-enhanced teaching strategies. This component may also improve teachers' confidence in integrating technology meaningfully into classroom learning experiences.

The fourth component centers on inclusive teaching and differentiated instruction. Participants encountered students with diverse learning needs, abilities, cultural backgrounds, and educational experiences. These situations required teachers to modify instructional approaches, adjust classroom activities, differentiate lessons, and provide inclusive learning opportunities for all students. Workshops and training programs focusing on inclusive education, differentiated instruction, learner diversity, and classroom accommodation strategies may assist teachers in creating equitable, supportive, and student-centered learning environments.

The fifth component emphasizes mentoring and professional support. Participants acknowledged that mentorship, collegial support, and administrative assistance played significant roles in helping them adjust to unfamiliar educational environments. Mentors and colleagues provided emotional encouragement, instructional advice, technological assistance, and professional reassurance during the adaptation process. Structured mentoring systems and peer-support programs may reduce feelings of isolation, increase professional confidence, and strengthen teachers' emotional resilience while teaching abroad.

Collectively, these support components emphasize that successful instructional adaptation requires more than technical teaching skills alone. Effective cross-cultural teaching also requires cultural understanding, emotional preparedness, flexibility, resilience, and continuous professional growth. Through organized support systems, Filipino J-1 science teachers may become more capable of navigating culturally diverse educational environments while sustaining effective and inclusive teaching practices.

Monitoring and Evaluation

To ensure the effectiveness, sustainability, and continuous improvement of the proposed framework, systematic monitoring and evaluation procedures should be implemented by school administrators, mentors, instructional leaders, and educational support personnel.

Monitoring procedures may include classroom observations, mentoring sessions, teacher feedback conferences, professional development participation records, and instructional performance assessments. These monitoring activities may help determine teachers' progress in cultural adjustment, instructional adaptation, technology integration, classroom management, and inclusive teaching practices.

Evaluation procedures may likewise include reflective journals, self-assessment checklists, peer evaluations, student feedback forms, and periodic professional reviews. These evaluation tools may provide meaningful insights regarding teachers' experiences, strengths, adjustment challenges, and professional growth throughout the implementation of the framework.

Furthermore, mentoring reports and professional learning community discussions may be utilized to identify areas requiring additional institutional support and professional intervention.

The results gathered from monitoring and evaluation activities may serve as bases for revising training programs, improving mentoring systems, strengthening institutional policies, and enhancing culturally responsive support strategies for international teachers.

Continuous monitoring and evaluation may also help schools sustain inclusive and supportive educational environments where Filipino J-1 science teachers and other international educators can thrive professionally and personally. Through ongoing assessment and improvement, the framework may contribute to stronger cultural responsiveness, equitable instructional practices, enhanced teacher well-being, and more effective cross-cultural teaching experiences in U.S. middle schools.

Chapter 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This This chapter presents the summary of findings, conclusions, and recommendations derived from the study on the lived experiences of Filipino J-1 science teachers in adapting their instructional practices in U.S. middle schools. The findings are organized according to the research questions and highlight instructional adaptation, cultural and pedagogical challenges, and professional growth. Based on these results, recommendations are proposed to strengthen culturally responsive teaching, enhance professional development, and improve institutional and mentoring support systems for Filipino J-1 science teachers.

Summary of Findings

The lived experiences of Filipino J-1 science teachers revealed significant instructional shifts toward student-centered, inquiry-based, and collaborative learning. Teachers adapted to classrooms where students are encouraged to actively participate, express ideas, and take ownership of their learning. These experiences also highlighted the increased integration of technology, the need for differentiated instruction, and the transformation of classroom dynamics from teacher-directed to learner-centered environments.

Teachers described navigating both cultural and pedagogical challenges as they adjusted to the U.S. educational context. These included adapting to open and interactive communication styles, transitioning from being knowledge transmitters to facilitators of learning, implementing inquiry-based and project-based strategies, addressing culturally diverse learners, and integrating digital tools into instruction. These challenges required flexibility, cultural sensitivity, and continuous professional adjustment.

The meanings derived from these experiences indicate that instructional adaptation is a multidimensional process involving shifts in pedagogy, cultural understanding, and professional practice. U.S. classrooms promote student autonomy, engagement, and inclusivity, requiring teachers to redesign lessons, adopt flexible teaching strategies, and respond to diverse learner needs. These experiences also highlight the importance of mentorship, support systems, and the development of resilience and adaptability among teachers.

Six major themes emerged from the analysis: (a) transition to a new educational environment, (b) instructional adaptation and innovation, (c) technology-enhanced instruction, (d) cultural and communication adjustment, (e) teaching in diverse learning environments, and (f) professional growth and identity development. These themes collectively demonstrate that instructional adaptation is a holistic and transformative process that involves pedagogical, cultural, technological, and personal dimensions.

Based on the findings, a culturally responsive teacher-support framework was developed. The framework emphasizes the need for structured cultural orientation, continuous professional development in student-centered and inquiry-based teaching, training in digital instructional tools, capacity-building for inclusive and differentiated instruction, and the establishment of mentoring and peer support systems. This framework aims to support Filipino J-1 science teachers in effectively navigating cross-cultural teaching environments and enhancing their instructional practices.

Conclusions

Based on the major findings of the study, the following conclusions were drawn:

1. Filipino J-1 science teachers experience instructional adaptation in U.S. middle school science classrooms as a transformative process characterized by cultural adjustment, pedagogical transition, technology integration, and professional growth. Their lived experiences demonstrate that adapting to a new educational environment extends beyond modifying instructional strategies and involves the continuous development of intercultural competence, emotional resilience, reflective practice, and culturally responsive teaching.
2. The significant experiences of Filipino J-1 science teachers in navigating cultural and pedagogical challenges are characterized by their adjustment to interactive classroom communication, student-centered instructional practices, culturally diverse learning environments, technology-enhanced teaching, and inclusive classroom practices. Although these experiences initially created uncertainty and adjustment difficulties, they ultimately contributed to the teachers' professional confidence, instructional flexibility, and cultural responsiveness.
3. The meanings derived from the participants' lived experiences reveal that instructional adaptation represents a process of personal and professional transformation. The participants interpreted their experiences as opportunities to develop greater appreciation for student autonomy, inquiry-based instruction, cultural diversity, inclusive education, technology integration, and lifelong professional learning, resulting in the reconstruction of their professional identities as culturally responsive educators.
4. The emergent themes demonstrate that the lived experiences of Filipino J-1 science teachers are shaped by six interconnected dimensions: transition to a new educational environment, instructional adaptation and innovation, technology-enhanced instruction, cultural and communication adjustment, teaching in diverse learning environments, and professional growth and identity development. These themes collectively illustrate that successful cross-cultural teaching requires continuous learning, adaptability, resilience, intercultural competence, and commitment to equitable and student-centered science education.

5. The development of the Culturally Responsive Teacher-Support Framework provides a comprehensive and evidence-based model for supporting Filipino J-1 science teachers in U.S. middle schools. The framework emphasizes cultural orientation and communication training, pedagogical support and professional development, technology integration, inclusive teaching and differentiated instruction, and mentoring and professional support as essential mechanisms for strengthening teachers' instructional competence, cultural responsiveness, emotional resilience, and professional confidence in culturally diverse educational environments.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are proposed:

1. For Filipino J-1 Science Teachers: Teachers are encouraged to continuously develop their competencies in student-centered and inquiry-based teaching approaches. They should actively engage in reflective practices, seek professional learning opportunities, and enhance their skills in technology integration and differentiated instruction to effectively address diverse learner needs.
2. For School Administrators and Institutions: Schools should provide structured support systems for Filipino J-1 teachers, including comprehensive cultural orientation programs, mentoring systems, and ongoing professional development. Creating inclusive and collaborative school environments can help teachers adjust more effectively and improve their instructional practices.
3. For Curriculum Planners and Program Developers: Educational institutions and exchange programs should design training programs that focus on culturally responsive pedagogy, inquiry-based instruction, and digital literacy. These programs should be tailored to the specific needs of international teachers to ensure smoother transitions into U.S. classrooms.
4. For Policy Makers and Educational Leaders: Policies should be developed to strengthen institutional support for international teachers, including standardized onboarding programs, access to instructional resources, and structured mentoring frameworks. Emphasis should be placed on promoting equity, inclusivity, and teacher well-being.
5. For Future Researchers: Future studies may explore the experiences of Filipino teachers in other subject areas or educational levels, as well as conduct comparative or longitudinal studies to further understand instructional adaptation over time. Quantitative or mixed-method approaches may also be used to validate and extend the findings of this study.

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