Jurnal Ilmiah Peuradeun
The Indonesian Journal of the Social Sciences
Journal Homepage:
https://journal.scadindependent.org/index.php/jipeuradeun

Vol. 14, No. 2, May 2026	Copyright © 2026, is licensed under a CC-BY-SA
Pages: 1349-1372	Publisher: SCAD Independent
DOI: https://doi.org/10.26811/peuradeun.v14i2.2483	P-ISSN: 2338-8617 / E-ISSN: 2443-2067

Building Digital Pedagogical Expertise in Online and Flipped Learning: Insights from a Visiting Scholar Experience

Effendi Limbong[1]; Ita Irawati[2]; Ben Wadham[3]; Safrul Muluk[4]; Suryanto Suryanto[5]; Muhammad Efflin Rizqallah Limbong[6]
[1,2]*Universitas Mulawarman, Kalimantan Timur, Indonesia*
[3]*Flinders University, Australia*
[4]*Universitas Islam Negeri Ar-Raniry Banda Aceh, Indonesia*
[5]*Universitas Muhammadiyah Yogyakarta, Indonesia*
[6]*Universitas Negeri Yogyakarta, Indonesia*
[1]*Correspondence Email: effendilimbong@fkip.unmul.ac.id*

Article Info

Received: July 23, 2025
Accepted: May 4, 2026
Published: May 30, 2026
Online First: May 30, 2026

Keywords

Digital Pedagogical Expertise;
Online And Flipped Learning;
Visiting Scholar;
Higher Education.

Abstract

The increasing adoption of online and flipped learning in higher education has focused primarily on student outcomes, leaving limited understanding of how educators develop digital pedagogical expertise through direct engagement with these instructional models. This study examined how a visiting scholar engaged in online and flipped learning practices, the dimensions of digital pedagogical expertise that emerged, and the contextual factors shaping this development. Using a qualitative phenomenological design, the study explored the experiences of a visiting lecturer at an Australian public university over one academic semester, complemented by learner perspectives from a postgraduate student. Data were collected through artifact analysis, non-participant observations, reflective journals, and semi-structured interviews, and analyzed using thematic analysis. The findings revealed that professional learning occurred through guided participation in integrated online–flipped instructional ecosystems, leading to the development of key competencies, including instructional transparency, guided autonomy, and multimodal feedback practices. The study also highlighted the significant role of institutional infrastructure, cultural expectations, and learning environments in mediating this process. This study concluded that digital pedagogical expertise was developed through structured experiential participation within authentic teaching contexts, rather than through technical training alone, offering important implications for faculty development and the design of digital pedagogy in higher education.

A. Introduction

The incorporation of digital technology into higher education has accelerated the global adoption of online and flipped learning models, positioning them as central components of contemporary teaching and learning practices (Baig & Yadegaridehkordi, 2023; Dečman et al., 2025). These approaches are widely promoted for enhancing flexibility, supporting active learning, and expanding opportunities for student engagement beyond traditional classroom boundaries (Baig & Yadegaridehkordi, 2023; ElGamal, 2025). However, growing evidence suggests that the effectiveness of online and flipped learning depends not merely on technological infrastructure but on educators' ability to design, facilitate, and adapt digital learning experiences effectively (Ncube & Tawanda, 2025; Zhao & Wang, 2024). Despite this reality, research on digital learning has predominantly examined student outcomes such as achievement, engagement, and satisfaction, while considerably less attention has been devoted to understanding how educators themselves develop the digital pedagogical expertise necessary to enact these innovations successfully (Baig & Yadegaridehkordi, 2023; Dečman et al., 2025).

In this regard, contemporary studies in educational technology argue that mastering digital pedagogy encompasses not only technological proficiency but also pedagogical and contextual competence—that is, understanding how to integrate technology meaningfully into teaching practice while attending to instructional design and learner needs (Ncube & Tawanda, 2025; Musa et al., 2025). This multifaceted expertise aligns with theoretical frameworks such as the Technological Pedagogical and Content Knowledge (TPACK) model and DigCompEdu, which emphasize the integration of content, pedagogy, and technology as foundational to effective digital teaching (Horváth et al., 2025; Mishra & Koehler, 2006; Muammar et al., 2023; Zhao & Wang, 2024). Yet, despite the conceptual clarity provided by these frameworks, there remains an empirical gap in understanding how educators actually acquire such expertise through lived, cross-cultural pedagogical experiences.

One context that offers significant potential for examining this process is the visiting scholar program. Established to foster international collaboration and academic exchange, visiting scholar programs provide sustained exposure to different institutional practices and teaching cultures, presenting a unique opportunity for professional growth in digital pedagogy (Ammigan & Caro, 2022; Kung et al., 2025;

Purwanti & Prasanti, 2025; Wiggins et al., 2022). Through such immersive experiences, educators are positioned to observe alternative pedagogical approaches, engage with unfamiliar learning environments, and reflect on their own teaching practices. However, as previous literature suggests, the mechanisms through which these informal and cross-cultural experiences translate into digital pedagogical competence remain underexplored.

In the context of visiting scholarship, observational learning and situated cognition provide useful lenses for examining how educators develop digital pedagogical expertise. Situated cognition theory posits that learning is inherently tied to the social and cultural contexts in which it occurs, suggesting that expertise emerges from participation in authentic practice rather than abstract instruction alone (Bantali et al., 2026; Lally, 2022; Robb et al., 2021; Zhao & Liu, 2024). Applied to digital pedagogy, this perspective highlights the value of direct engagement with online and flipped learning environments as a pathway for educators to cultivate nuanced understandings of instructional design, learner interaction, and technology integration. Previous research underscores that professional development initiatives centered on authentic digital teaching experiences—such as structured workshops and collaborative design projects—can significantly impact educators' pedagogical knowledge and confidence (ElGamal, 2025). Despite growing evidence regarding the benefits of authentic digital teaching experiences, far fewer studies have traced the developmental trajectories of educators who observe and reflect on competent digital teaching practices in situ, particularly within cross-cultural settings that challenge assumptions about teaching and learning norms.

Moreover, emerging scholarship on teacher professional development in online and blended environments emphasizes the role of contextual factors in shaping outcomes. Institutional support, access to technological infrastructure, and cultural attitudes toward innovation are known to facilitate or hinder educators' adoption of digital pedagogical practices (Ncube & Tawanda, 2025; Meriyati et al., 2025). These studies indicate that even when educators are exposed to exemplary models of online or flipped teaching, their ability to internalize and transfer such practices depends on supportive conditions, including mentoring, collegial collaboration, time for reflection, and alignment with local educational goals. Without such supports, professional learning may remain superficial, failing to produce substantive changes in pedagogical expertise (Ncube & Tawanda, 2025). Taken together, the existing

literature suggests that important questions remain regarding how digital pedagogical expertise develops through authentic cross-cultural professional experiences, what forms of expertise emerge from such engagement, and how contextual conditions facilitate or constrain this developmental process.

Addressing these questions is important for advancing current understandings of faculty professional development in digitally mediated learning environments. Greater insight into the ways educators develop digital pedagogical expertise through authentic professional experiences can enrich existing discussions of digital pedagogy, professional learning, and technology-enhanced teaching. In particular, such understanding can help explain how professional competence is cultivated beyond formal training initiatives and workshop-based interventions, thereby extending current perspectives on educator learning and development.

Responding to this gap, this study explores the development of digital pedagogical expertise through an immersive visiting scholar experience situated within authentic online and flipped learning environments. By positioning the visiting scholar experience as a site of situated professional learning shaped by observation, participation, and reflection, the study offers a novel perspective on how educators acquire, interpret, and adapt digital teaching practices across institutional and cultural boundaries.

Accordingly, this study examines how a visiting scholar engaged with online and flipped learning practices in a higher education context and how this engagement contributed to the development of digital pedagogical expertise. Grounded in theories of observational learning and situated professional growth, this critical case study focuses on the scholar's reflections and experiences within the host institution's online and flipped teaching environments. Specifically, the study investigates three interrelated research questions: (RQ1) How does a visiting scholar engage with online and flipped learning practices in a higher education context? (RQ2) What dimensions of digital pedagogical expertise are developed through this engagement? and (RQ3) What contextual factors facilitate or hinder the development of digital pedagogical expertise during the visiting scholarship?

B. Method

This study employed a qualitative phenomenological design to examine how a visiting scholar developed digital pedagogical expertise through engagement with online and flipped learning practices in a higher education context. The phenomenological

approach was chosen to capture the lived experiences and meaning-making processes of participants as they interacted with digitally mediated instructional environments (Creswell & Poth, 2018; Tavakol & Sandars, 2025). The study focused on three research questions addressing engagement with digital teaching practices, the development of pedagogical expertise, and the contextual factors shaping professional learning.

The primary participant was a lecturer from an overseas university who undertook a visiting scholar program at a public university in Australia over one academic semester. During this period, the lecturer observed and reflected on multiple postgraduate courses delivered through online and flipped learning modalities. To enrich the data and incorporate a learner perspective, the lecturer's spouse (pseudonym: Ariati), who was enrolled as a postgraduate student in the observed courses, participated as a co-participant. This arrangement enabled the study to capture both observational and experiential dimensions of the learning process.

The observed courses were conducted through blended and fully online formats using a learning management system (LMS), synchronous video conferencing platforms, discussion forums, automated quizzes, and collaborative digital tools. Instructional activities included pre-class video materials, asynchronous discussions, formative assessments, and in-class problem-solving tasks. These environments provided an authentic setting for examining how digital pedagogical practices were structured and experienced in practice.

Data were collected using four complementary techniques. First, course artifact analysis was conducted by examining syllabi, instructional modules, assessment rubrics, and LMS structures to identify patterns of instructional design and organization (Morgan, 2022). Second, non-participant observations were carried out during synchronous sessions and online activities to document instructional strategies, student engagement, and interaction patterns (Fong et al., 2022; White & Maher, 2024). Third, the visiting scholar maintained reflective journals throughout the program, recording observations, professional insights, and emerging understandings of digital pedagogy (Almutawa & Alfahid, 2024; Li, 2025). Fourth, semi-structured interviews were conducted with the co-participant to capture student perspectives on course structure, feedback practices, and learning experiences (Mason & Francis, 2022).

Data analysis followed an iterative thematic process consistent with phenomenological inquiry. All data sources—including observation notes, reflective

journals, interview transcripts, and course documents—were systematically coded to identify recurring patterns. Initial coding focused on forms of engagement with online and flipped learning practices, followed by the identification of emerging dimensions of digital pedagogical expertise. Additional coding was conducted to examine contextual factors influencing professional learning, including institutional support, technological infrastructure, and cultural expectations. The analysis involved multiple cycles of coding, comparison, and synthesis to generate coherent themes aligned with the research questions (Kiger & Varpio, 2020).

To ensure rigor, the study employed methodological triangulation across multiple data sources, enhancing the credibility of findings (Creswell & Poth, 2018). Reflexive notes were maintained throughout the research process to document analytic decisions and monitor potential bias, particularly given the close relationship between participants (Lochmiller, 2021). Peer debriefing with external qualitative researchers was also conducted to support consistency in coding and interpretation.

Ethical approval was obtained from the host institution prior to data collection. Informed consent was secured from all participants, and pseudonyms were used to protect confidentiality. All data were securely stored, and participants retained the right to withdraw from the study at any stage without consequence.

C. Results and Discussion

This section presents the empirical findings derived from the phenomenological analysis of the collected data, focusing on how the visiting scholar engaged with online and flipped learning practices, the dimensions of digital pedagogical expertise that emerged, and the contextual factors shaping this process. The presentation of results is organized thematically based on the research questions, followed by a discussion that interprets these findings in relation to relevant theoretical frameworks and existing literature.

1. Results

The phenomenological analysis of course artifacts, non-participant observations, reflective journals, and semi-structured interviews produced three interrelated themes aligned with the research questions: (1) engagement as "guided participation" in online and flipped ecosystems (RQ1), (2) development of multidimensional digital pedagogical expertise (RQ2), and (3) contextual mediation through institutional, cultural, and infrastructural conditions (RQ3).

These themes were consistently supported across data sources, with interview excerpts used to corroborate patterns identified in artifacts, observations, and reflective journals. Across themes, the findings foreground the co-participant's (Ariati's) student experience and the visiting scholar-lecturer's reactive professional learning, as evidenced in both observational records and interview narratives.

a. Engagement as guided participation in online and flipped ecosystems

To address RQ1 concerning how a visiting scholar engages with online and flipped learning practices in a higher education context, the analysis identified two interrelated themes that characterize the scholar's engagement with the host institution's digital learning environment. These themes reveal that engagement extended beyond classroom observation and involved active examination of instructional structures, learning processes, and student participation patterns across online and face-to-face learning settings.

Engagement through instructional ecosystem mapping across artefacts, platform routines, and learning flow

The first engagement pattern involved systematic mapping of the instructional ecosystem that supported online and flipped learning practices. The visiting scholar's engagement extended beyond observing classroom interactions and included close examination of course artefacts, LMS architecture, learning resources, assessment rubrics, discussion activities, and feedback mechanisms. Analysis of these artefacts revealed a deliberately sequenced learning design in which pre-class activities, online engagement, and in-class learning tasks were interconnected. Course materials consistently followed a flipped structure consisting of pre-class content exposure through readings and micro-lectures, preparatory quizzes, and subsequent in-class application activities. This instructional arrangement was also described by Ariati during the interview:

> *"Usually we need to study materials before class, then in class we apply or discuss it, not just listen to lecture."* (Interview with Ariati, March 12, 2025)

Observation notes further documented how students were expected to complete preparatory activities before attending face-to-face sessions and how these activities informed subsequent discussions, collaborative tasks, and problem-solving exercises conducted during class meetings (Observation Notes, March–April 2025).

The observations also showed that online and classroom components were designed to function as interconnected elements within a single learning system rather than as separate instructional activities. Through this process, the visiting scholar engaged with online and flipped learning practices by tracing relationships among digital artefacts, platform routines, assessment processes, and learning sequences across different phases of instruction.

Engagement through guided autonomy monitoring of student navigation and pacing

The second engagement pattern emerged through close observation of how students navigated learning resources and managed their learning pace within the online environment. Particular attention was directed toward the ways in which learner autonomy was enacted and supported through digital platforms. During the interview, Ariati repeatedly emphasized the value of accessibility and flexibility afforded by digital learning resources:

> *"The accessibility of digital materials creates a flexible and self-paced learning environment that supports engagement."* (Interview with Ariati, March 12, 2025)

Consistent with this statement, observation notes documented that students could access learning materials at different times, revisit instructional content when necessary, and determine their own pace of engagement with online activities (Observation Notes, March–April 2025). At the same time, the observations revealed the presence of structured deadlines, progress checkpoints, scheduled discussions, and task submission requirements that guided students' participation throughout the course. The visiting scholar's field notes highlighted the coexistence of learner flexibility and instructional structure within the learning environment. One observation noted:

> *"While the data showed that autonomy is vital, my observations of Ariati's navigation patterns indicated that total flexibility could lead to cognitive overload without clear deadlines."* (Observation Notes, March–April 2025)

These findings indicate that the scholar's engagement involved careful monitoring of how students balanced autonomy, navigation choices, and pacing within online and flipped learning environments. The observations consistently documented the interaction between flexible access to learning resources and the structured mechanisms used to support sustained participation throughout the learning process.

b. Development of multidimensional digital pedagogical expertise

To address RQ2, the analysis examined how sustained engagement with online and flipped learning practices contributed to the development of digital pedagogical expertise. Three interrelated dimensions emerged from the data: instructional transparency as a core competence, multimodal socio-constructivist feedback practices, and framework-informed competence building through the integration of technological, pedagogical, and instructional considerations. Together, these dimensions demonstrate how the visiting scholar's professional learning evolved through continued exposure to digitally mediated teaching and learning environments.

Instructional transparency as a core competence emphasizing clarity and navigability

A prominent dimension of expertise development involved increased attention to instructional transparency. Across interviews, observations, and reflective notes, the visiting scholar consistently identified clarity of expectations, course organization, and task requirements as important features of effective online and flipped learning environments. Rather than focusing exclusively on content delivery, attention was directed toward how instructional information was communicated and how students navigated learning activities throughout the course.

Ariati repeatedly described clear instructional structures as supportive of learning and academic confidence: *"When requirements are obvious, people can show knowledge instead of guessing."* (Interview with Ariati, March 25, 2025). She further emphasized the importance of predictable course organization: *"A well-defined course schedule enables students to know what to expect and allows them to plan their study beforehand."* (Interview with Ariati, April 5, 2025)

Observation notes documented the consistent use of explicit schedules, assessment criteria, submission guidelines, and instructional reminders throughout the course (Observation Notes, March–May 2025). The visiting scholar's reflections also indicated increasing attention to the role of rubrics, timelines, and task instructions in supporting student participation within online learning environments. Collectively, these findings suggest that instructional transparency emerged as a significant component of digital pedagogical expertise developed during the visiting scholarship.

Multimodal socio-constructivist feedback practices

A second dimension of expertise development centered on feedback practices and learner interaction. Data consistently showed that feedback within online and flipped learning environments was delivered through multiple formats, including written comments, audio recordings, discussion exchanges, and collaborative interactions. These practices enabled communication to extend beyond formal assessment activities and become integrated into the learning process.

Ariati highlighted the importance of collaborative interaction in supporting engagement and idea development: "*Providing students or us with online environments to collaborate is a great way to allow us interact with one another and develop ideas as a group.*" (Interview with Ariati, April 17, 2025). She also described positive experiences with multimodal feedback: "*Getting feedback in different forms, including written notes and voice recording, was enjoyable. It enabled me to use and understand (feedback) better.*" (Interview with Ariati, May 14, 2025)

Observation notes similarly documented the use of multiple feedback channels across different learning activities, including written responses to assignments, discussion-based feedback, and audio-supported communication (Observation Notes, March–May 2025). The visiting scholar's reflective records frequently referred to the value of varied communication modes in maintaining interaction and supporting student participation. These findings indicate that expertise development involved growing awareness of feedback as a multidimensional process that supports both learning and engagement.

Framework-informed competence building through integrated technological and pedagogical decision-making

The third dimension of expertise development involved increasingly integrated approaches to technological and pedagogical decision-making. Analysis of reflective notes revealed that the visiting scholar gradually moved beyond viewing digital tools as isolated technologies and instead considered them in relation to instructional purposes, learner needs, and course objectives.

Across observations and reflections, decisions regarding technology use were consistently linked to specific pedagogical considerations. For example, the scholar noted situations in which audio feedback appeared more appropriate than text-based feedback, instances in which structured deadlines supported student progression, and occasions when collaborative tasks were used to facilitate interaction among learners

(Observation Notes, March–May 2025). These decisions reflected an increasing tendency to evaluate technological choices in relation to learning design rather than technological functionality alone.

Reflective records further documented the scholar's efforts to align instructional strategies, digital tools, assessment practices, and learner support mechanisms across different learning activities. As engagement with online and flipped learning environments continued, technological, pedagogical, and instructional considerations became increasingly interconnected within the scholar's reflections and professional judgments. This pattern suggests the emergence of a more integrated form of digital pedagogical competence informed by the interaction between technology use and instructional decision-making.

c. Contextual mediation through institutional, cultural, and infrastructural conditions

To address RQ3, this section examines the contextual conditions that shaped the development of the visiting scholar's digital pedagogical expertise during the scholarship period. The findings indicate that expertise development was influenced not only by individual engagement with online and flipped learning practices but also by the broader institutional, cultural, and infrastructural environment in which those practices were embedded. Three contextual dimensions emerged as particularly influential: enabling conditions associated with access, openness, and participation; transferability constraints related to institutional differences; and cultural expectations surrounding learner autonomy and participation.

Facilitators through access, openness, and legitimate peripheral participation

The first contextual dimension consisted of several enabling conditions that supported the scholar's professional learning. Observation notes and interview data consistently highlighted access to well-established digital learning systems, transparent instructional structures, and opportunities for sustained participation in teaching and learning activities. These conditions included stable LMS routines, clearly articulated assessment criteria, standardized rubrics, accessible learning resources, and consistent learning pathways across courses. The participant emphasized the value of structured systems in supporting understanding of course requirements: "*Structured systems supported understanding of course expectations.*" (Interview with Ariati, April 5, 2025).

Observation notes further documented frequent opportunities for the visiting scholar to observe course implementation, review instructional materials, examine

assessment procedures, and engage in discussions regarding pedagogical decision-making (Observation Notes, March–May 2025). The scholar's reflective records also described repeated access to course artefacts and teaching rationales that would not ordinarily be visible to external observers. Together, these conditions enabled sustained participation, observation, and reflection within the instructional environment throughout the visiting scholarship period.

Hindrances related to transferability constraints and contextual limitations

A second contextual dimension involved challenges associated with transferring observed practices to the scholar's home institution. While many instructional approaches appeared effective within the host environment, observations and reflective notes indicated that several practices relied upon institutional resources, technological infrastructure, and organizational supports that might not be equally available elsewhere.

Reflective journal entries documented concerns regarding the feasibility of implementing certain online and flipped learning practices without comparable institutional conditions. One reflective note stated that the adoption of digital teaching strategies without corresponding pedagogical redesign risked reducing innovation to the simple use of technological tools: *"Without these supporting conditions, adoption risks becoming superficial, such as uploading videos without redesigning pedagogy."* (Reflective Journal, April 2025)

Additional observations highlighted differences in technological capacity, administrative support, instructional workload, and access to digital learning resources between institutions (Observation Notes, March–May 2025). These contextual differences emerged as important considerations during the scholar's reflection on the applicability of observed practices beyond the host setting.

Cultural expectations shaping autonomy and participation

The third contextual dimension related to cultural expectations surrounding student participation and learner autonomy. Across observations, students were routinely expected to engage with learning materials before class, manage independent study activities, participate in discussions, and contribute to collaborative learning tasks. These expectations were evident in both online and face-to-face learning interactions.

Observation notes documented that students regularly completed preparatory activities before attending class sessions and demonstrated familiarity with

expectations regarding self-directed learning and active participation (Observation Notes, March–May 2025). Interview data similarly indicated that students viewed preparation, collaboration, and ongoing participation as normal components of the learning process. These patterns were consistently observed across multiple learning activities and instructional settings.

The visiting scholar's reflections also recorded repeated encounters with practices that assumed high levels of learner responsibility and engagement. Such observations highlighted the role of participation norms, communication practices, and expectations regarding independent learning within the host educational environment. Collectively, these findings demonstrate that the development of digital pedagogical expertise occurred within a context characterized by established cultural expectations regarding autonomy, preparation, and collaborative participation.

2. Discussion

The findings of this study demonstrate that the development of digital pedagogical expertise among visiting scholars is not primarily driven by exposure to digital tools, but by sustained engagement within structured and coherent instructional ecosystems. The results show that the visiting scholar's professional learning emerged through guided participation in integrated online and flipped learning environments, where instructional design, learner interaction, and feedback practices were interconnected. This indicates that digital pedagogical expertise is fundamentally experiential and context-dependent, rather than acquired through isolated training or technical instruction. Rather than merely reflecting observed patterns, this finding suggests that engagement functions as a mechanism through which instructional systems become interpretable and meaningful for professional learning.

Empirical evidence from the results highlights that engagement occurred through systematic observation of instructional structures and close attention to student learning experiences. The visiting scholar's engagement extended beyond classroom attendance to include mapping course artifacts, platform routines, and learning sequences, while also monitoring how students navigated flexibility and pacing in digital environments. Data from the co-participant further emphasized the importance of accessibility, clarity, and interaction in shaping the learning experience. These patterns illustrate that engagement in digital pedagogy involves both structural awareness and sensitivity to learner behavior, particularly in digitally mediated learning environments where interaction and participation

are structured differently from conventional settings (Baig & Yadegaridehkordi, 2023; Dečman et al., 2025). Taken together, these patterns indicate that engagement is not only participatory but also interpretive, requiring the ability to recognize how different instructional elements are pedagogically aligned.

From an analytical perspective, these findings suggest that effective professional learning in digital pedagogy requires the ability to perceive instructional coherence across multiple components of the learning environment. The observed integration between asynchronous and synchronous activities indicates that learning effectiveness is shaped by how instructional elements are sequenced and aligned, rather than by individual components in isolation. At the same time, the emergence of "guided autonomy" as a pattern of engagement reveals that flexibility in digital learning environments must be balanced with structured support, particularly in relation to deadlines, pacing, and task sequencing. Without such structure, autonomy may lead to uneven engagement and increased cognitive load, a condition frequently reported in online and flipped learning contexts (Baig & Yadegaridehkordi, 2023; Dečman et al., 2025). This suggests that autonomy should be understood as a design outcome shaped by instructional decisions, rather than as an inherent learner attribute.

These insights align with situated learning theory, which conceptualizes learning as participation in authentic social practices rather than the acquisition of abstract knowledge (Giles et al., 2025; Patel, 2018). In this study, the visiting scholar's expertise developed through observation, interaction, and reflection within a real instructional setting, consistent with the idea of legitimate peripheral participation. This perspective is further supported by research on visiting scholar programs, which emphasizes the role of immersive academic environments in facilitating professional growth (Herawati et al., 2022; Ammigan & Caro, 2022; Lally, 2022). The findings also resonate with broader discussions in digital pedagogy literature that highlight the importance of coherent instructional design in online and flipped learning environments (Lestari, 2025; Baig & Yadegaridehkordi, 2023; Dečman et al., 2025; ElGamal, 2025). The findings extend this perspective by showing that participation in digital contexts also involves navigating and interpreting structured instructional system, not solely engaging in social interaction.

This finding also resonates with studies of academic mobility and visiting scholar engagement, which suggest that professional learning frequently occurs through observation of local practices, interaction with host communities, and

participation in institutional routines rather than through formal instruction alone (Zhao & Liu, 2024; Robb et al., 2021). In the present study, the visiting scholar's engagement with instructional artefacts, learning sequences, and student participation patterns illustrates how exposure to authentic teaching ecosystems can facilitate the gradual development of professional understanding. This suggests that professional learning within visiting scholar programs may be strengthened when opportunities for sustained observation and pedagogical reflection are intentionally embedded into the experience.

A second major contribution of this study lies in identifying key dimensions of digital pedagogical expertise that emerged through engagement. The results indicate that instructional transparency, multimodal feedback practices, and integrated pedagogical–technological decision-making constitute central aspects of this expertise. Empirical data show that clear instructions, structured timelines, and explicit assessment criteria reduced uncertainty and enabled students to focus on learning tasks. Similarly, feedback delivered through multiple modes, including written and audio formats, enhanced both comprehension and engagement. These dimensions can be interpreted as design-oriented competencies that shape how learning environments are experienced rather than merely how content is delivered.

Analytically, these findings suggest that digital pedagogical expertise extends beyond technical competence to include the ability to design learning environments that support clarity, interaction, and continuity. Instructional transparency, in particular, appears to function as a foundational element of digital teaching, shaping how students interpret tasks and manage their learning. The use of multimodal feedback further indicates that assessment practices in digital environments must address both cognitive and relational dimensions of learning. In this sense, effective digital pedagogy involves orchestrating both informational clarity and relational engagement.

These observations are consistent with frameworks such as Technological Pedagogical and Content Knowledge (TPACK), which emphasize the integration of technological, pedagogical, and contextual knowledge in teaching practice (Mishra & Koehler, 2006). However, the findings extend these frameworks by demonstrating how such integration is enacted in practice through continuous interaction with learners and instructional systems. Rather than simply applying tools, the visiting scholar's learning trajectory reflects a shift toward design-oriented thinking, where technological choices are

guided by pedagogical intentions and learner needs. This aligns with recent studies that highlight the importance of intentional instructional design in digital learning environments (Hasan et al., 2025; Muammar et al., 2023).

The findings further align with contemporary interpretations of digital competence frameworks that emphasize reflective and context-sensitive technology integration rather than technical proficiency alone (Horváth et al., 2025; Muammar et al., 2023). The observed shift toward instructional transparency, multimodal feedback, and pedagogically informed technology use suggests that expertise development involved increasing awareness of how technological decisions influence learner experience and participation. This reinforces recent arguments that digital pedagogical competence is best understood as an adaptive and reflective professional capability that evolves through practice-based engagement (Rawat et al., 2024; Novoa-Echaurren et al., 2025; Syarifah et al., 2026).

A third important insight concerns the role of contextual factors in mediating the development of digital pedagogical expertise. The findings show that institutional infrastructure, professional openness, and cultural expectations significantly influenced both engagement and learning outcomes. Access to stable digital platforms, structured course designs, and transparent instructional practices enabled the visiting scholar to observe and understand pedagogical processes in depth. At the same time, the co-participant's experiences reflected cultural norms that supported active participation, independent preparation, and collaborative learning. These conditions can be understood as making pedagogical practices visible and therefore learnable within the host environment.

From an analytical standpoint, these findings reinforce the view that digital pedagogy is inherently situated and cannot be fully understood outside its institutional and cultural context. The effectiveness of online and flipped learning practices depends not only on instructional design but also on the availability of resources, organizational support, and shared expectations among participants. This perspective is consistent with research emphasizing the contextual nature of digital pedagogy and the influence of institutional conditions on teaching practices (Ncube & Tawanda, 2025). This suggests that expertise development is co-constructed through interaction with contextual affordances rather than individually acquired.

Importantly, the study also highlights challenges related to the transferability of observed practices across contexts. The visiting scholar noted that several instructional strategies relied on conditions that may not be available in all settings, particularly in institutions with limited technological infrastructure or different organizational structures.

This suggests that adopting digital pedagogical practices requires adaptation rather than replication, taking into account local constraints and opportunities. Such findings contribute to ongoing discussions on digital education in the Global South, where issues of equity, access, and capacity remain central concerns (Ncube & Tawanda, 2025). Accordingly, effective implementation depends on the ability to reinterpret practices in ralation to local conditions rather than directly transferring them.

This issue is particularly relevant within discussions of international academic exchange and educational capacity building. Previous studies have noted that the value of visiting scholar programs often depends on participants' ability to reinterpret and adapt newly acquired practices within their own institutional settings rather than simply replicate them (Kung et al., 2025; Ammigan & Caro, 2022). The present findings support this view by demonstrating that pedagogical innovation is mediated by contextual realities, including technological resources, organizational support, and local teaching cultures. Consequently, successful transfer requires contextual translation rather than direct implementation.

This study contributes to the literature by demonstrating that digital pedagogical expertise develops through the interaction of three interconnected processes: engagement with instructional ecosystems, the emergence of design-oriented pedagogical competencies, and mediation through institutional and cultural conditions. Rather than conceptualizing expertise as a collection of discrete technological skills, the findings portray it as a situated process shaped by observation, participation, reflection, and contextual adaptation. This perspective extends existing research on faculty development and international academic mobility by highlighting how authentic cross-cultural engagement can serve as a mechanism for professional learning and pedagogical transformation (Ammigan & Caro, 2022; Lally, 2022; Hämäläinen et al., 2021; Novoa-Echaurren et al., 2025).

Theoretically, the findings support and extend situated learning perspectives by illustrating how expertise develops within digitally mediated instructional environments, where participation and interaction play a central role in knowledge construction (Robb et al., 2021). Practically, the study suggests that higher education institutions should design professional development opportunities that emphasize immersive engagement with teaching practices, rather than relying solely on workshops or technical training, as also highlighted in recent research on digital pedagogy competence development (Doria et al., 2025; Rawat et al., 2024). Furthermore, the findings underscore the importance of designing digital learning environments that balance flexibility with structure, provide clear guidance,

and support interaction through diverse feedback mechanisms, which are increasingly recognized as critical factors in effective online and flipped learning implementation (Baig & Yadegaridehkordi, 2023; ElGamal, 2025). These implications highlight the need to prioritize design coherence and learner experience in digital pedagogy initiatives.

At a global level, this study contributes to broader discussions on the internationalization of higher education and the development of digital teaching competencies, particularly in the context of cross-border academic exchange and capacity building (Gutiérrez-Ponce & Wibowo, 2023; Ammigan & Caro, 2022; Zhao & Liu, 2024). As universities increasingly adopt online and blended learning models, understanding how educators develop the capacity to design and implement these models becomes critical in ensuring sustainable and contextually relevant innovation (Ncube & Tawanda, 2025; Andi & Ridho, 2026). The findings suggest that cross-cultural academic mobility, such as visiting scholar programs, can play a significant role in bridging knowledge gaps and fostering innovation in teaching practices across different educational contexts, especially between resource-rich and resource-constrained institutions (Kung et al., 2025; Wiggins et al., 2022). This underscores the dual role of academic mobility as both a learning opportunity and a site of structural disparity.

Beyond the context of visiting scholarship, these findings are relevant to ongoing global efforts to strengthen educator readiness for digitally mediated teaching, particularly in regions where institutions continue to navigate disparities in infrastructure, professional development opportunities, and technological access. As higher education systems increasingly adopt online, blended, and flipped learning models, the challenge extends beyond technology provision to the cultivation of pedagogical expertise that enables educators to design meaningful and context-responsive learning experiences (Ncube & Tawanda, 2025). The present study suggests that such expertise is most effectively developed through authentic participation in teaching ecosystems where observation, reflection, and interaction are embedded within everyday instructional practice.

The findings also contribute to broader discussions on international academic mobility as a mechanism for professional learning and capacity building. Previous studies have highlighted the potential of visiting scholar programs to facilitate knowledge exchange, intercultural understanding, and professional growth across institutional boundaries (Ammigan & Caro, 2022; Kung et al., 2025). This study extends those discussions by demonstrating how cross-cultural academic engagement can foster the

development of digital pedagogical expertise through sustained exposure to different instructional cultures and educational practices. In this regard, academic mobility functions not only as a vehicle for international collaboration but also as a pathway for strengthening digital teaching capacity in diverse higher education contexts (Zhao & Liu, 2024).

Despite its contributions, this study has several limitations that should be acknowledged. The research is based on a single case, which limits the generalizability of the findings. The close relationship between the primary participant and the co-participant may also introduce subjectivity in data interpretation, although efforts were made to address this through triangulation and reflexivity. Future research should examine multiple cases across diverse institutional contexts to validate and extend these findings. Longitudinal studies are also needed to explore how digital pedagogical expertise developed through visiting scholar experiences is sustained and applied in participants' home institutions over time. Addressing these limitations would strengthen the empirical and contextual robustness of future studies.

D. Conclusion

This study demonstrates that digital pedagogical expertise develops through sustained experiential engagement within structured online and flipped learning environments, rather than through isolated exposure to digital tools or formal training alone. The findings show that the visiting scholar's professional learning emerged through active observation, interaction, and reflection within a coherent instructional ecosystem, where course design, learner engagement, and feedback practices were systematically interconnected. Three key dimensions were identified as central to this development: guided autonomy in managing flexible learning environments, instructional transparency in reducing ambiguity and supporting learner confidence, and multimodal feedback practices that enhance interaction and understanding. These findings indicate that professional learning in digital pedagogy operates as an interpretive and design-oriented process, in which educators develop the capacity to understand and orchestrate instructional systems rather than merely apply technological tools.

The study contributes to the field of higher education by offering an empirically grounded account of how digital pedagogical expertise is constructed in practice, particularly within the context of international academic mobility. By integrating observational, reflective, and experiential perspectives, the study extends existing

discussions on faculty development and digital pedagogy, emphasizing the importance of situated and immersive learning processes. It also highlights the role of institutional and cultural contexts in shaping both engagement and expertise development, reinforcing the idea that digital pedagogy cannot be separated from its learning environment. More spesifically, this study contributes by conceptualizing digital pedagogical expertise as emerging through the interaction between participation in authentic teaching practices and the ability to interpret structured instructional system, thereby extending situated learning perspectives into digitally mediated contexts.

Based on the limitations identified in this study, future research should involve multiple cases across diverse institutional contexts to enhance the generalizability and robustness of the findings. In addition, longitudinal studies are needed to examine how digital pedagogical expertise developed through visiting scholar experiences is sustained, adapted, and applied in participants' home institutions over time, particularly in relation to varying institutional and contextual conditions. Such research would be particularly valuable in examining how pedagogical practices are recontextualized across settings with differing levels of infrastructure, support, and cultural expectations.

This study highlights that digital pedagogical expertise develops as a situated and context-dependent process through meaningful engagement in authentic teaching environments, emphasizing that advancing digital pedagogy in higher education requires a shift from tool-focused approaches toward system-level design of coherent, learner-centered learning environments that integrate structure, interaction, and feedback.

Declaration of Competing Interest

The authors declare that they have no known competing financial or non-financial interests that could have appeared to influence the work reported in this paper.

Declaration of Generative AI

Declaration of generative AI and AI-assisted technologies in the writing process. During the preparation of this work, the authors used ChatGPT and QuilBolt in order to improve readability and language. After using these tools, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

Bibliography

Almutawa, H., & Alfahid, M. (2024). Reflective Journal Writing: EFL Pre-Service Teachers' Perceptions during Practicum. *Language Teaching Research Quarterly*, *45*, 140–156. https://doi.org/10.32038/ltrq.2024.45.08

Ammigan, R., & Caro, C. E. (2022). The International Visiting Scholar Experience: Insights from an Importance-Satisfaction Study. *Higher Education Research and Development*, *41*(6), 1773–1789. https://doi.org/10.1080/07294360.2021.1962813

Andi, A., & Ridho, M. T. (2026). Abraham's Sacrifice in the Qur'an and the Bible: Comparative Hermeneutics of Narrative, Meaning, and Textual Authority. *Jurnal Studi Ilmu-Ilmu Al-Qur'an Dan Hadis*, *27*(1), 73–94. https://doi.org/10.14421/qh.v27i1.6336

Baig, M. I., & Yadegaridehkordi, E. (2023). Flipped Classroom in Higher Education: A Systematic Literature Review and Research Challenges. *International Journal of Educational Technology in Higher Education*, *20*(1), 61. https://doi.org/10.1186/s41239-023-00430-5

Bantali, A., Sairin, S., Nashori, F., & Rahmatullah, A. S. (2026). Religiosity Among Autistic Children: The Formation of Religious Practices and Islamic Spiritual Experiences. *Miqot: Jurnal Ilmu-Ilmu Keislaman*, *50*(1), 188–213. https://doi.org/10.30821/miqot.v50i1.1378

Creswell, J. W., & Poth, C. N. (2018). Qualitative Inquiry & Research Design: Choosing Among Five Approaches. In *SAGE Publications, Inc.* SAGE Publications, Inc.

Dečman, M., Klun, M., & Stare, J. (2025). Online Flipped Classroom in University Social Science Courses: Impact on Student Experience and Success. *Computers and Education Open*, *8*, 100261. https://doi.org/10.1016/j.caeo.2025.100261

Doria, B., Grion, V., Picasso, F., & Li, L. (2025). Faculty Assessment Development in Higher Education: The CRAFT Framework Emerging from a Systematic Literature Review. *Assessment and Evaluation in Higher Education, 51*(1), 16-40. https://doi.org/10.1080/02602938.2025.2584121

ElGamal, H. (2025). Towards a Flipped Learning Ecosystem: A Generative Artificial Intelligence-Enabled Framework. *European Journal of Open, Distance and E-Learning*, *27*(2), 1-14. https://doi.org/10.65043/eurodl.151

Fong, M. M., Butler, L., Chen, H., & Herman, G. L. (2022). Validating an Observation Protocol for Structured Roles in Cooperative Learning. *Proceedings - Frontiers in Education Conference, FIE*, 1-9. https://doi.org/10.1109/FIE56618.2022.9962529

Giles, A. K., Pitonyak, J. S., George-Paschal, L., Piernik-Yoder, B., & Taff, S. D. (2025). Situated Learning. In *Routledge Companion to Occupational Therapy: Theories, Concepts and Models* (pp. 663–673). Taylor and Francis. https://doi.org/10.4324/9781003526766-53

Gutiérrez-Ponce, H., & Wibowo, S. A. (2023). Sustainability Reports and Disclosure of the Sustainable Development Goals (SDGs): Evidence from Indonesian Listed Companies. *Sustainability (Switzerland)*, *15*(24), 16919. https://doi.org/10.3390/su152416919

Hämäläinen, T., Kaipainen, K., Lappalainen, P., Puolakanaho, A., Keinonen, K., Lappalainen, R., & Kiuru, N. (2021). Usage Activity, Perceived Usefulness, and Satisfaction in a Web-Based Acceptance and Commitment Therapy Program among Finnish Ninth-Grade Adolescents. *Internet Interventions*, *25*, 100421. https://doi.org/10.1016/j.invent.2021.100421

Hasan, Moch. S., Azizah, M., Ainiyah, Q., Solechan, S., Sunardi, S., Budiyono, A., & Tohir, M. B. M. (2025). Developing Administrative Excellence for Enhanced Educational Service Quality in Islamic Secondary Schools. *Kharisma: Jurnal Administrasi Dan Manajemen Pendidikan*, *4*(2), 109–124. https://doi.org/10.59373/kharisma.v4i2.99

Herawati, R., Tjahjono, H. K., Qamari, I. N., & Wahyuningsih, S. H. (2022). Does Teacher's Willingness to Change Enhance Professional Competence? *European Journal of Educational Research*, *11*(3), 1463–1474. https://doi.org/10.12973/eu-jer.11.3.1463

Horváth, L., M. Pintér, T., Misley, H., & Dringó-Horváth, I. (2025). Validity Evidence Regarding the use of DigCompEdu as a Self-Reflection tool: The Case of Hungarian Teacher Educators. *Education and Information Technologies*, *30*(1), 1–34. https://doi.org/10.1007/s10639-024-12914-6

Kiger, M. E., & Varpio, L. (2020). Thematic Analysis of Qualitative Data: AMEE Guide No. 131. *Medical Teacher*, *42*(8), 846–854. https://doi.org/10.1080/0142159X.2020.1755030

Kung, P. J., Chang, Y. C., Chang Chiu, A., Li, M., Fang, C. J., & Reynolds, N. R. (2025). The Impact of International Visiting Scholars Programmes on Nursing PhD Students: An Integrative Review. *Journal of Advanced Nursing*, *82*(5), 4111-4123. https://doi.org/10.1111/jan.70116

Lally, M. (2022). Understanding the Experiences of Fulbright Visiting Scholars—A Qualitative Systematic Review. *Education Sciences*, *12*(2), 90. https://doi.org/10.3390/educsci12020090

Lestari, I. W. (2025). Supporting Diverse Learners in Flipped Classrooms: Prior Knowledge and Engagement for Pre-service EFL Teachers. *Participatory Educational Research*, *12*(3), 72–87. https://doi.org/10.17275/per.25.34.12.3

Li, H. (2025). Reflective Practice for Pre-Service Teachers' Professional Development. *SAGE Open*, *15*(3). https://doi.org/10.1177/21582440251363136

Lochmiller, C. R. (2021). Conducting Thematic Analysis with Qualitative Data. *The Qualitative Report*, *26*(6), 2029–2044. https://doi.org/10.46743/2160-3715/2021.5008

Mason, N. F., & Francis, D. B. (2022). Thematic Analysis. In *The International Encyclopedia of Health Communication* (pp. 1–5). Wiley. https://doi.org/10.1002/9781119678816.iehc0611

Meriyati, Amriyah, C., Robingatin, Romlah, & Jatmiko, A. (2025). MURDER Learning Model in Digitally Supported Learning: Effects on Reflective Thinking Skills across Learning Creativity Levels. *Online Learning In Educational Research*, *5*(2), 559–569. https://doi.org/10.58524/oler.v5i2.800

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *Teachers College Record*, *108*(6), 1017–1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

Morgan, H. (2022). Conducting a Qualitative Document Analysis. *The Qualitative Report*, *27*(1), 64–77. https://doi.org/10.46743/2160-3715/2022.5044

Muammar, S., Hashim, K. F. Bin, & Panthakkan, A. (2023). Evaluation of Digital Competence Level among Educators in UAE Higher Education Institutions using Digital Competence of Educators (DigComEdu) Framework. *Education and Information Technologies*, *28*(3), 2485–2508. https://doi.org/10.1007/s10639-022-11296-x

Musa, F., Asari, H., Hamid, A. F. A., & Rosyadi, B. (2025). The Living Tradition of "Bay'ah Lima": Sustaining Sheikh Musthafa Husein al Mandily's Teachings in Shaping Santri Nationalism. *Miqot: Jurnal Ilmu-Ilmu Keislaman*, *49*(2), 293–313. https://doi.org/10.30821/miqot.v49i2.1392

Ncube, C. N., & Tawanda, T. (2025). Critical Digital Pedagogy for Contemporary Transformative Practices in the Global South: A Literature Review. *Cogent Education*, *12*(1), 2523133. https://doi.org/10.1080/2331186X.2025.2523133

Novoa-Echaurren, Á., Pavez, I., & Anabalón, M. E. (2025). Reflective Practice and Digital Technology Use in a University Context: A Qualitative Approach to Transformative Teaching. *Education Sciences*, *15*(6), 643. https://doi.org/10.3390/educsci15060643

Patel, C. (2018). Jean Lave and Etienne Wenger's: Situated Learning: Legitimate Peripheral Participation. In *Jean Lave and Etienne Wenger's: Situated Learning: Legitimate Peripheral Participation*. Taylor and Francis. https://doi.org/10.4324/9781912281039

Purwanti, E., & Prasanti, S. Y. (2025). Enhancing English Teaching in Elementary Schools: A Sociocultural Perspectives of non-English Major Teachers' Experiences. *English Language Teaching Educational Journal*, *8*(2), 105–117. https://doi.org/10.12928/eltej.v8i2.13052

Rawat, S., Tiwari, S., Sharma, M., & Singh, N. C. (2024). The Digital Pedagogy Competence Scale (DiPeCoS): Development and Validation. *Research and Practice in Technology Enhanced Learning*, *19*. https://doi.org/10.58459/rptel.2024.19018

Robb, S. L., Kelly, T. H., King, V. L., Blackard, J. T., & McGuire, P. C. (2021). Visiting Scholars Program to Enhance Career Development among Early-Career KL2 Investigators in Clinical and Translational Science: Implications from a Quality

Improvement Assessment. *Journal of Clinical and Translational Science*, *5*(1), E67. https://doi.org/10.1017/cts.2020.564

Syarifah, Muslih, M., Anwar, S., Samsirin, & Azizah, N. (2026). Engineering Tolerance: Systematic Management of Hidden Curriculum in a Holistic 24-Hour Educational Ecosystem. *Kharisma*, *5*(1), 171–186. https://doi.org/10.59373/kharisma.v5i1.198

Tavakol, M., & Sandars, J. (2025). Twelve Tips for using Phenomenology as a Qualitative Research Approach in Health Professions Education. *Medical Teacher*, *47*(9), 1441–1446. https://doi.org/10.1080/0142159X.2025.2478871

White, M., & Maher, B. L. (2024). How Might Rubric-Based Observations Better Support Teacher Learning and Development? *Educational Research*, *66*(1), 86–101. https://doi.org/10.1080/00131881.2024.2304542

Wiggins, B., Hennesy, C., Vetruba, B., Logsdon, A., & Janisch, E. (2022). Digital Scholarship Programs in Practice. *College and Research Libraries, 83*(4), 568–592. https://doi.org/10.5860/crl.83.4.568

Zhao, X., & Liu, X. (2024). International Visiting Scholars' Ways of Interacting with their Academic Hosts. *Studies in Continuing Education*, *46*(3), 351–364. https://doi.org/10.1080/0158037X.2023.2166915

Zhao, X., & Wang, F. (2024). A Quantitative Model of Technological Pedagogical Content Knowledge (TPACK) Based on Graphical Calculation. *Discover Education*, *3*(1), 265. https://doi.org/10.1007/s44217-024-00275-8