



Faith, Culture, and Technology in EFL Classrooms: Ethnographic Insights from Professional Learning Communities in Indonesian Islamic Schools

Sayyidatul Fadlilah¹, *Issy Yuliasri², Sri Wuli Fitriati³

^{1,2,3}Universitas Negeri Semarang, Indonesia

email: sayyidatulfadlilah@students.unnes.ac.id, issy.yuliasri@mail.unnes.ac.id,
sriwuli.fitriati@mail.unnes.ac.id

*Corresponding Author

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Abstract

Integrating Technological Pedagogical Content Knowledge (TPACK) in English as a Foreign Language (EFL) teaching necessitates striking a balance between global educational innovations and local cultural and religious contexts. This ethnographic study examines how faith-based values and cultural norms influence the integration of TPACK among EFL teachers in the Professional Learning Communities (PLCs) of Indonesian Islamic schools. Using a multidisciplinary framework combining educational technology, sociocultural theory, and religious studies, the research addresses: (1) How do faith and culture shape teachers' TPACK practices? (2) What challenges and opportunities arise in aligning technology with Islamic educational values? (3) How do PLCs help or hinder culturally responsive TPACK development? Data were collected through classroom observations, field notes, photo voice, and school documents. Findings indicate that religious and cultural commitments influence technology adoption and enhance lesson relevance by connecting to students' experiences. PLCs provide collaborative spaces to address value-based concerns, share strategies, and co-create approaches that ensure teaching effectiveness and cultural and religious consistency. The study highlights the need for context-sensitive professional development to facilitate the sustainable integration of technology in EFL settings.

Keywords: Cultural values, EFL, Faith-based school, Professional Learning Communities (PLCs), TPACK Integration

1. Introduction

The global transition towards technology-based learning has encouraged educators worldwide to reassess how digital tools can be effectively integrated into classroom practices (Bork, 1990). In response to this evolving landscape, various professional development models for teachers, particularly in teaching English as a foreign language (EFL), have emerged across different educational levels. These models can be categorized into three main types: Pedagogical Content Knowledge (PCK), a traditional training approach that focuses on the mastery of both content and pedagogy; Hybrid Designs or Blended Professional Training, which combines online and in-person training components for a more versatile learning experience; Technological Pedagogical Content Knowledge (TPACK), a framework that integrates knowledge of technology, pedagogy, and content to support more relevant and contextualized learning practices (Budianto et al., 2023).

The TPACK approach is designed to help teachers effectively integrate technology into their teaching methods, thereby enhancing student engagement and adapting educational experiences to meet the needs of the 21st century (Voithofer & Nelson, 2021). In addition, teachers are responsible for imparting content knowledge to their students and, more crucially, for providing opportunities to cultivate 21st-century skills. It ensures that each student can think critically and creatively, engage in active problem-solving, and become digitally literate (Roussinos & Jimoyiannis, 2019). While TPACK provides a vital framework for digital integration, it is essential to recognize that technology in education is not culturally neutral. Cultural norms, institutional expectations, and religious values often influence teachers' decisions to adopt or reject the digital medium (Chai & Koh, 2017).

Innovation resistance is characterized by the rejection of new ideas or technologies by end users, often because these innovations threaten a satisfactory status quo or clash with their deeply held beliefs. They recognize that their cultural values and norms embody their identity and are rooted in personal relationships and a framework of cultural and moral standards (Mishra & Warr, 2021). These standards significantly influence resistance to innovation, prompting them to reflect on their impact. While technology is widely recognized as an innovation that enhances the effectiveness of learning, certain educational institutions, such as madrasas or faith-based schools, oppose this advancement. It becomes particularly relevant in faith-based educational settings such as Indonesian madrasahs, where English language instruction is embedded within religious, moral, and communal traditions. In such contexts, integrating technology involves more than just pedagogical change. However, it requires navigating complex intersections between technological innovation and cultural identity.

In the same way, Martin et al. (2025) contended that the success of technology-enhanced education is unaffected by unsupervised technology. Previous studies have demonstrated that TPACK can enhance technology integration into teaching methods (Voogt et al., 2013). However, teaching and learning are complex processes that require teachers to be highly skilled in TPACK. Mishra (2019) noted that technology integration in educational settings has seen a notable increase in demand, driven by the need to enhance the effectiveness of teaching and learning processes. Furthermore, the roles of educators as developers of technology, curriculum, and instructional methodologies are critical to the successful implementation of technology within these environments.

At the same time, Tseng et al. (2011) stated that teachers' engagement with technology in the classroom is significantly influenced by their level of technological proficiency. The use of technology has seen an increase in demand, driven by the goal of enhancing the efficacy of teaching and learning (Voogt et al., 2009). Since technology is connected to teacher collaboration and positive teaching attitudes, the requirements are crucial in EFL English as a foreign language education (Aydin, 2013). In contrast, Isnandar et al. (2025) stated that adapting technology in faith-based schools is not entirely smooth. Initially, there was cultural resistance; however, with a context-based approach, teachers and students began to accept technology more positively. They emphasize that technology acceptance is a negotiation process between religious values and modernity, ensuring the preservation of the school's unique cultural and religious context.

On the other hand, madrasahs are often founded on deeply rooted traditional, spiritual, and moral values. AL-Takhayneh et al. (2022) argued that technical barriers and value incompatibility are the main factors in rejecting technological integration. Therefore, technology must be aligned with the values and structure of the madrasah. Parents, teachers, and school administrators typically have a more cautious approach to digital content. For instance, when teachers introduce technology that promotes specific values or practices that conflict with Islamic teachings, it can lead to resistance from teachers, students, and the surrounding community. Therefore, technology integration must be contextual; it cannot be adopted from outside sources (Zainuddin et al., 2024).

In addition to the issue of religious values influencing TPACK implementation, Putri et al. (2023) argue that the challenge facing institutions implementing technology-based learning is that older teachers or those less familiar with technology may struggle to fully utilize digital tools, often relying on basic resources such as textbooks or simple online examples. This highlights the need for ongoing professional development and support. Moreover, many teachers view content, pedagogy, and technology as separate domains, making it challenging to design meaningful and integrated technology-based learning (Roussinos & Jimoyiannis, 2019). Several factors, including gender, training, and teaching experience, significantly influence these attitudes and skills.

Indeed, previous studies have explored TPACK integration in various educational contexts; few have examined how this framework operates in environments where religious and cultural values are deeply embedded in pedagogical decision-making. This lack of context-specific insights leaves unanswered questions about how EFL teachers in Indonesian madrasahs negotiate the intersection between technological innovation and faith-based educational traditions. Despite the rapid increase in the literature on TPACK integration, the research on negotiating the complexities of technology use within cultural and religious belief systems, especially for EFL teachers in madrasahs in Indonesia, remains minimal. The TPACK framework has been extensively explored in various educational contexts, and much of the existing scholarship assumes technology integration to be a culturally neutral process. However, in faith-based institutions such as Indonesian madrasahs, pedagogical practices are inseparable from religious and cultural values. Prior research has examined TPACK implementation broadly, but only limited studies have investigated how teachers in Islamic schools negotiate the integration of technology while upholding Qur'anic principles, local cultural practices, and institutional mandates. Furthermore, the role of Professional Learning Communities (PLCs) as mediating spaces for reconciling these tensions has received little empirical attention. This leaves a gap in understanding how TPACK evolves as a faith-informed and culturally situated framework in Islamic EFL classrooms. To address this gap, the present study is guided by the following research questions:

- 1) How do faith and cultural values shape English teachers' TPACK practices in Indonesian madrasahs?
- 2) What challenges and opportunities arise in aligning technology integration with Islamic educational values?
- 3) How do Professional Learning Communities (PLCs) mediate the development of culturally responsive and faith-informed TPACK among EFL teachers?

2. Literature Review

2.1. Culture and Religious Values in Orchestrating Educational Technology

Faith-based educational environments present unique challenges and opportunities in integrating technology into teaching and learning. In Indonesian madrasahs, the adoption of digital tools is often characterised by selective integration. Educators incorporate features and platforms seen as supportive of moral and religious instruction, while avoiding materials that might be perceived as conflicting with Islamic principles (Tambak et al., 2022). This pattern reflects a cautious, intentional approach. Technology is positioned as a supplementary instrument rather than a transformative driver of pedagogy. In Saudi Arabia, a similar value-conscious orientation can be found; however, the operationalization differs. Jamjoom (2010) observed that teachers in Saudi classrooms often embed Quranic verses, prophetic traditions, and culturally familiar analogies within online lessons. While Indonesian contexts tend to limit access to content deemed ideologically or culturally misaligned, Saudi educators are more inclined to reframe broader linguistic or thematic materials through a religious lens. This expands the pool of resources without compromising value alignment. This contrast reveals that shared religious frameworks do not necessarily result in identical technological practices. Local pedagogical traditions and institutional mandates are critical in shaping the adaptation process.

Zakaria et al. (2018) identified that teachers in Malaysia implemented a dual-layered filtering system, evaluating digital resources for both technical suitability and moral alignment. This method sought to ensure religious compliance while fostering student engagement and intellectual curiosity. The Malaysian approach was characterized as proactive, balancing cultural and religious values and opportunities for student exploration. In contrast, Soomro and Shah (2019) observed that comparable filtering practices in rural Pakistani schools limited students' intercultural competence and global awareness development. Although both contexts prioritized moral safeguarding, the Malaysian model was more facilitative, whereas the Pakistani approach potentially restricted the breadth of education. This comparison aligns with Warsah et al. (2021), who contend that selective adaptation can serve as a culturally responsive pedagogy, and with Ally & Samaka (2013), who caution that uncritical filtering may reinforce echo chambers and isolate learners from diverse perspectives.

Longitudinal research suggests that adaptation within faith-based educational settings is a dynamic and ongoing. Ahmad et al. (2022) found that initial skepticism towards blended learning in a Malaysian Islamic school shifted to more innovative and confident use of learning management systems and social media after teachers participated in targeted professional development focused on value alignment. In contrast, Maryati et al. (2023) reported that rural Indonesian madrasahs experienced stagnation in technology integration due to a lack of sustained mentoring and follow-up support. Although teachers initially experimented with new digital platforms, concerns about value conflicts and community perceptions led many to return to

minimal technology use. These contrasting outcomes highlight the importance of sustained institutional support in preventing stagnation or regression in technology integration, particularly in environments where religious and cultural factors significantly influence pedagogical decisions.

Recent scholarship has expanded this line of inquiry by examining how cultural characteristics interact with perceptions of educational technology across different regions. Tusha et al. (2024) found that norms, values, and local practices significantly influence educators' and students' perceptions of technology's usefulness, ease of use, and overall satisfaction. Halimah et al. (2024) claim that value preservation and technological innovation can be mutually reinforcing when informed by cultural awareness and clear pedagogical objectives. Moreover, Suryanti and Ikawati (2025) shows that educator-led digital engagement, through deliberate content selection, guided discussions, and alignment with value-based learning objectives, enables technology to support cognitive and moral development. The existing research indicates that pedagogical adaptation within faith-based educational settings is influenced by the interaction of cultural, religious, and institutional factors (Zine, 2000). Some educational models employ restrictive filtering to limit exposure to alternative perspectives, whereas others utilize technology to reinforce community values and broaden educational opportunities. Effective adaptation requires that educators possess the necessary skills, resources, and critical reflection to evaluate and tailor digital tools. This approach supports both the preservation of cultural and religious commitments and the development of competencies essential for engagement in a globalized society.

2.2. PLCs as Collaborative Dialog Arenas for TPACK Evolution

Professional Learning Communities (PLCs) have been increasingly recognized as powerful platforms for fostering teachers' Technological Pedagogical Content Knowledge (TPACK) development, particularly through sustained collaborative dialogues and reflective practices. Through sustained interaction, teachers share experiences, exchange insights, and co-construct practical strategies that support the meaningful integration of technology in teaching (Andrade, 2008; Katrien, 2017).

The collaborative nature of PLCs encourages a culture of continuous improvement, fostering professional growth that goes beyond isolated workshops or training sessions (Stoll et al., 2006). Drawing from Voogt et al. (2013), PLCs provide a space where teachers can share pedagogical challenges, co-construct technological integration strategies, and align instructional approaches with curriculum goals. In EFL contexts, such interactions are not merely technical exchanges but are embedded within discussions of language pedagogy, cultural relevance, and learner engagement. These dynamics resonate with the findings of Taimalu & Luik (2019) and Kim et al. (2013), who argue that structured collaboration within PLCs facilitates the gradual refinement of teachers' beliefs and practices in technology integration, transforming tacit knowledge into actionable teaching strategies. Similarly, Opfer & Pedder (2011) and Lantz-andersson et al. (2018) emphasize that such dialogic spaces enable teachers to develop a shared professional vision that aligns with both pedagogical objectives and broader institutional goals.

In the context of faith-based settings, teachers often face the dual challenge of aligning TPACK development with both national curriculum demands and the preservation of Islamic values that shape classroom discourse, instructional choices, and the selection of digital resources. This is echoed in (Siddiqui, 2025), who found that Saudi Arabian teachers in Islamic schools carefully curated online materials to ensure cultural appropriateness, even when such constraints limited

immediate access to global digital resources. Similarly, Ali et al.(2024) documented how Pakistani madrasa-based EFL educators negotiated the use of multimedia tools to both enhance language learning and reinforce moral instruction, illustrating that pedagogical innovation and religious commitment are not mutually exclusive but mutually reinforcing.

However, global research also indicates that TPACK integration is not immune to contextual challenges. In many educational settings, including faith-based schools, the adoption of technology is shaped not only by resource availability and pedagogical demands but also by institutional values and religious beliefs. These beliefs can initially present constraints, such as concerns over the appropriateness of specific digital content. However, they can also become powerful bridges for adaptation when teachers are supported through PLCs. For instance, Admiraal et al.(2016) found that trust-based collaboration enables educators to reinterpret technological tools through culturally appropriate pedagogical frameworks, while Pang and Wang (2016) observed that PLCs foster creative solutions that reconcile global teaching demands with local value systems.

This dynamic becomes especially pronounced in Indonesian madrasahs, where PLCs operate within a dual framework: national curriculum standards and Islamic educational values. In Indonesia, Rohmah et al. (2019) found that madrasah teachers employed PLC discussions to collectively redesign English lesson plans, ensuring they not only met Ministry of Education standards but also incorporated Islamic character-building components. This unique sociocultural dimension not only enriches professional dialogue within PLCs but also influences how technology-mediated learning strategies are adapted to respect local traditions while fostering students' global communicative competence. This finding is consistent with (Jones et al., 2013) observation that culturally grounded PLCs can transform perceived constraints into opportunities for contextually sustainable innovation.

In contrast to mainstream public schools, where technology integration is typically evaluated based on pedagogical efficiency and student achievement, Professional Learning Community (PLC) discussions in madrasahs incorporate an additional focus. These discussions focus on aligning digital tools with moral education, Islamic character development, and religious values. This distinction presents specific challenges, including the need to adapt technological resources to fit cultural and religious contexts. However, shared values within the PLC can also promote greater trust, enhanced collaboration, and a more intentional approach to Technological Pedagogical Content Knowledge (TPACK) development.

In faith-based EFL settings, these conversations also become culturally situated, as illustrated by Doğan and Adams (2018), where institutional values and educational missions shape the scope and form of technology adoption. This is further reinforced by Admiraal et al. (2016), who found that PLC participation promotes mutual trust and reflective practice, creating a climate in which culturally and contextually appropriate TPACK growth can occur. The dialogic nature of PLCs also nurtures professional agency by enabling teachers to examine their pedagogical decisions and reflect on their practice critically. De Jong et al. (2022) highlight that teacher learning is most effective when it is participatory, contextually grounded, and sustained over time. This perspective is supported by Lantz-andersson et al.(2018) and Shifflet & Weilbacher (2015) who observed that when teachers engage in purposeful conversations about technology use, they often negotiate meaning, challenge assumptions, and adapt innovations to fit their specific classroom realities.

Moreover, PLCs can serve as mediating arenas where teachers reconcile institutional constraints with personal teaching philosophies. The work of Opfer and Pedder (2011) and Osborne et al.(2019) demonstrate that the interaction between individual cognition, school culture, and external policy demands shapes professional learning. In madrasahs, this often means balancing the imperative to prepare students for global communication in English with the obligation to preserve religious identity and community values. Such alignment processes are further enhanced when PLCs adopt a non-hierarchical, trust-based structure, as reported by Hairon et al.(2015) and Vijayadevar et al.(2019), which encourages open dialogue and collaborative problem-solving without fear of judgment.

Despite these strengths, research also notes challenges in PLC implementation. Issues such as uneven participation, time limitations, and the need for skilled facilitation can hinder optimal collaboration (Katrien, 2017). In faith-based settings, these challenges are compounded by the need to carefully negotiate dialogue boundaries, where innovation must be balanced with respect for tradition and religious norms (Nepp, 2023). Nonetheless, when led thoughtfully, PLCs can serve as empowering environments that support teachers' evolving TPACK and reinforce community values.

3. Research Methodology

3.1. Research Design

This study adopts a qualitative ethnographic case study approach to examine the nuanced and culturally embedded practices of professional learning communities (PLCs) in faith-based schools in EFL contexts. This research design facilitates a comprehensive analysis of teachers' collaborative processes, the influence of institutional values on technology integration, and the sociocultural factors affecting the development of Technological Pedagogical Content Knowledge (TPACK).

A multidisciplinary lens is applied, combining three key perspectives. The TPACK framework to examine how teachers integrate technology with subject content and instructional strategies. The study also considers cultural values to assess how Islamic beliefs and institutional norms influence technology-related decisions. The professional learning communities (PLCs) framework is also applied to evaluate how collaborative structures facilitate professional development and collective problem-solving. These frameworks are examined within English EFL classrooms in Indonesian madrasahs.

3.2. Research Setting

This study was conducted in selected madrasahs in Semarang City, where English teachers work within an educational environment deeply influenced by cultural and religious values. These schools were purposively selected for their diversity, strategic location, and relevance to the study's focus. Representing both public and private institutions, they vary in infrastructure, teacher qualifications, and access to technology. Yet, they strongly commit to embedding Islamic principles into their educational practices.

Within this setting, thirty Islamic junior high schools and forty-eight active English teachers were actively engaged in Professional Learning Communities (PLCs). These PLCs served as collaborative platforms where teachers discussed and refined ways to integrate their religious values with the technological pedagogical content knowledge (TPACK) framework. This

environment provided a rich context for examining how shared beliefs and collaborative structures intersect to shape teachers' approaches to integrating technology in the classroom.

3.3. Research Participants

The participants consisted of 48 in-service English teachers, comprising eight males and 40 females, representing a range of teaching experience, educational qualifications, and professional development trajectories. Most possessed a bachelor's degree in English education, while a smaller proportion had a master's degree. Their prior engagement with technology-enhanced pedagogy differed, with some participating in TPACK-oriented workshops and PLC activities, whereas others had limited formal training in this area. All participants were actively involved in the PLC (Madrasah Tsanawiyah English Teachers Association) in Semarang, Indonesia, contributing diverse pedagogical perspectives and classroom practices. They actively engage in various activities, including regular meetings, collaborative lesson planning, and peer observations. Purposive sampling is used to select teachers who vary in their teaching experience, digital literacy levels, and subject specializations, ensuring a rich diversity of perspectives.

3.4. Data Collection Procedures

Data are gathered through a combination of non-participant observations of PLC sessions to capture authentic interactions and collaborative practices; document analysis of lesson plans, digital teaching materials, and PLC meeting notes, and informal interviews and reflective conversations with participants to elicit deeper insights into their beliefs, challenges, and strategies regarding technology integration.

The data collection from fieldwork was conducted from 2020 to 2025 for prolonged engagement and deeper cultural immersion. Observations focused on both formal PLC sessions and informal teacher interactions. All data sources were triangulated to ensure validity and reliability.

3.5. Data Analysis Technique

Data are analyzed thematically, guided by the TPACK framework (Koehler & Mishra, 2009) and informed by sociocultural theory. Coding begun by formulating the coding to identify emerging patterns, followed by axial coding to connect categories and refine themes related to faith-based technology adaptations in EFL instruction.

4. Results

This study examined how faith, cultural beliefs, and institutional frameworks influence English teachers' integration of technology (TPACK) within the context of madrasahs, and how professional learning communities (PLCs) facilitate this process. Data were drawn from interviews, lesson plans, classroom observations, PLC notes, agendas, teacher reflections, and student responses. The findings are presented through three key themes corresponding to the research questions.

4.1. Faith and Cultural Beliefs in Shaping TPACK Practice

Technology integration in education has often been conceptualized through universalist frameworks such as TPACK (Koehler & Mishra, 2009), emphasizing the interplay of technological, pedagogical, and content knowledge. However, scholars increasingly argue that teachers' practice

is never culturally neutral; rather, it is deeply situated within the socio-cultural and institutional contexts in which they teach (Chai & Koh, 2017; Lantz-andersson et al., 2018). In faith-based schools, this situatedness becomes particularly visible, as pedagogical decisions are mediated by curricular standards and religious and moral frameworks that guide teacher identity and institutional expectations (White, 2009).

The concept of culturally responsive pedagogy (Gay, 2001; Ladson-Billings, 1995) provides a valuable lens for understanding this dynamic, highlighting how teachers adapt content and pedagogy to reflect students' cultural backgrounds and lived realities. In Islamic educational settings, however, "culture" is inseparable from religio-cultural epistemologies, ways of knowing and teaching that foreground Qur'anic principles, prophetic traditions, and local cultural values. Thus, valid content or effective pedagogy is determined not solely by disciplinary knowledge but also by religious obligations and communal identity.

From this perspective, TPACK in Islamic schools must be re-imagined as a framework incorporating these faith-based epistemologies. Teachers are not merely integrating technology into pedagogy and content; they are simultaneously negotiating the alignment of digital tools with Qur'anic teachings, institutional mandates, and local cultural practices. This creates what can be described as a faith-informed TPACK, where technological choices are filtered through religious values and cultural appropriateness.

Within Indonesian madrasahs, such negotiations are theoretical and visible in teachers' everyday instructional practices. The lesson plans and classroom observations analysis illustrate how these religio-cultural considerations were concretely enacted in English teaching. Teachers consistently infused Islamic values and local culture into their lessons. For instance, in a procedure text lesson on food, teachers cited Qur'an Surah Al-Baqarah, verse 168, to highlight the importance of consuming halal food. Similarly, in narrative text lessons, stories of Prophet Nuh were adapted. In an advertisement lesson, local products such as *sambal uleg* and *pisang kepok*, the komodo as an endemic of the Indonesian islands, were incorporated as authentic materials. These examples reveal how pedagogical choices were guided by curricular demands and deeply embedded in faith-based and cultural frameworks.

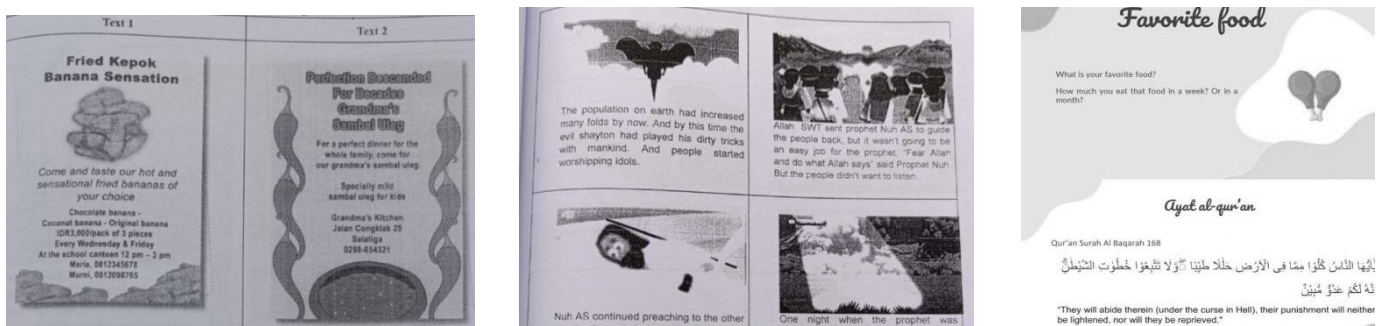


Figure 1. Lesson plan excerpts illustrating faith-informed and culturally responsive TPACK practices. From left to right: (a) advertisement lesson integrating local product (pisang kepok), (b) narrative lesson on Prophet Nuh, (c) procedure text citing Qur'an Surah Al-Baqarah 168 on halal food.

Interviews further confirmed that such integration was not incidental. Teachers explained that when teaching in madrasahs, institutions strongly identified with Islamic values, they were required to embed religious references in all subjects. One teacher stated, "Because we teach at Madrasah Tsanawiyah (MTs)/Islamic Junior High School, we must reflect Islamic values in our teaching." Moreover, those with Islamic-based university backgrounds felt professionally and morally obliged to align their practice with Islamic knowledge traditions.

From a TPACK perspective, this reflects a contextualized form of integration where technological tools (Smart TVs, video-based assignments) are used in synergy with pedagogical approaches. However, religious and cultural values deliberately shape the content. This aligns with prior research, which shows that TPACK is not a neutral construct but is always mediated by contextual factors (Chai & Koh, 2017; Mishra & Koehler, 2009).

From a cultural and faith-based perspective, the findings align with studies in Islamic education contexts (Selim, Sumaya, 2025), suggesting that teachers often transmit moral and religious values that extend beyond their subject matter. Embedding Qur'anic verses in English lessons illustrates this dual responsibility.

Finally, from an institutional-policy lens, broader regulatory frameworks also shaped teachers' practices. Madrasahs are mandated to implement digital learning as part of national education reforms, compelling teachers to integrate technology. This dual demand of religious expectations and ministry regulations positions teachers at the intersection of faith, culture, and policy, negotiating TPACK not merely as a technical skill but as a culturally and institutionally embedded practice.

4.2. Challenges and Opportunities in Aligning Technology with Islamic Educational Values

Research on technology integration has long highlighted the tension between opportunities and barriers in classroom practice. Ertmer (1999) distinguished between first-order barriers, external constraints such as infrastructure and access, and second-order barriers, internal constraints related to teacher beliefs, pedagogical preferences, and cultural expectations. In faith-based contexts, these challenges are further complicated by ensuring that technological practices align with religious values and institutional missions (Tondeur et al., 2017).

At the same time, institutional and policy discourses often frame technology as an opportunity for educational reform, positioning digital literacy as a crucial 21st-century competency (Voogt et al., 2013). In Indonesia, the Ministry of Education and the Ministry of Religious Affairs emphasize digital transformation in schools, including madrasahs, thereby creating policy-driven incentives for teachers to integrate technology (Sholeh, 2022). However, such reforms are not culturally neutral: teachers in Islamic schools must negotiate how digital tools can be embedded in ways that remain faithful to Islamic principles and community expectations (Muhsinin, 2024).

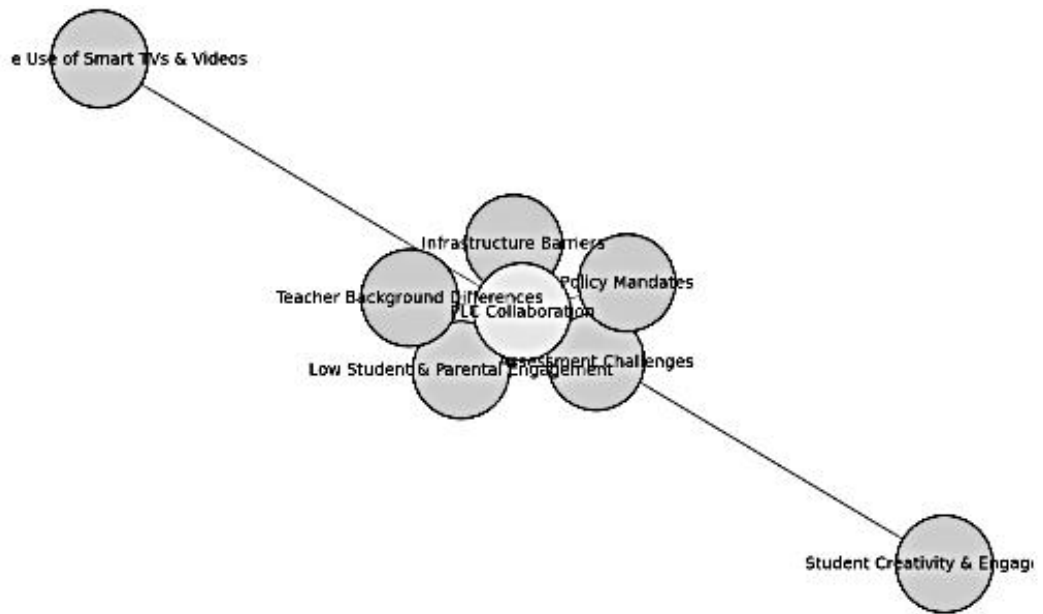


Figure 2. Coding Map for RQ2 illustrates how teachers in madrasah EFL classrooms negotiated the alignment of technology with Islamic educational values. The data reveal multiple challenges, including infrastructural barriers (limited access to smartphones and the internet), pedagogical issues in assessment, low student motivation coupled with weak parental involvement, and differences in teachers' educational backgrounds (Islamic-based universities versus non-Islamic-based universities). At the same time, policy mandates from the Ministry of Education and the Ministry of Religious Affairs pressured schools to integrate digital learning.

From a cultural perspective, this negotiation reflects insights from culturally responsive pedagogy (van Compernelle & Williams, 2013), which stresses that pedagogical and technological choices must reflect learners' sociocultural identities. In the madrasah context, where religion and culture are deeply intertwined, teachers must adapt digital tools for pedagogical effectiveness and religio-cultural appropriateness. Collaboration within professional communities further becomes essential to mediate these tensions (Katrien, 2017).

Within this landscape, challenges and opportunities in Islamic schools are best understood as dynamic and relational: infrastructural constraints may limit access and push teachers toward creative solutions. At the same time, policy pressures may feel burdensome, but they also provide resources for experimentation.

This dynamic was evident in the data. Teachers identified several persistent challenges when integrating technology in ways that remain faithful to Islamic educational values. Data from Google Form surveys and reflective interviews highlighted infrastructural barriers, including the fact that not all students owned smartphones or laptops, and internet access was inconsistent, which limited the effectiveness of online and blended learning. During the pandemic, teachers repeatedly struggled with conducting assessments, ensuring student engagement, and adapting the national curriculum to restricted time allocations. One teacher explained, "Online learning was never maximal because not all students had smartphones, and many parents could not support their children's learning."

These challenges reflect what Ertmer (1999) described as "first-order barriers" (infrastructure and access) and "second-order barriers" (teacher beliefs, student motivation), both of which were evident in the data. Teachers reported frustration with low parental involvement, limited student interest, and difficulty aligning assessment practices with technological platforms.

In addition, opportunities also emerged. Madrasahs are under intense institutional pressure from the Ministry of Education and the Ministry of Religious Affairs to adopt digital learning tools as part of national reforms. Thus, Teachers began experimenting with Smart TVs, multimedia presentations, and video-based student projects (e.g., creating creative procedure text videos). Such initiatives fulfilled policy demands and motivated students to engage more actively, as teachers observed higher levels of creativity when students worked on video tasks.

From a TPACK lens, these findings reveal the tension between technological resources and pedagogical goals: while access remains limited, creative adaptations, such as video assignments contextualized with Islamic and local cultural themes, provide meaningful integration. This mirrors findings from Chai and Koh (2017), who argued that contextual constraints often become drivers of innovative practice when teachers collaboratively problem-solve.

From a policy and institutional lens, national requirements to digitalize learning acted as a double-edged sword: they created pressure and opened spaces for professional development and technological experimentation. Studies in Indonesian Islamic schools similarly note that policy mandates frequently accelerate teachers' engagement with digital tools, albeit unevenly across contexts (Sutrisno et al., 2023)

From a cultural lens, the need to align technology use with Islamic values generated challenges and opportunities. Teachers without Islamic educational backgrounds (non-Islamic-based university graduates) initially struggled to integrate religious content appropriately. However, collaboration with Islamic-based university-trained colleagues provided a valuable space for shared learning. This echoes prior research on culturally responsive pedagogy (Selim, Sumaya, 2025; van Compernelle & Williams, 2013), which highlights collaboration as essential for ensuring that technology-mediated instruction reflects local cultural and religious values.

4.3. PLCs as Mediators of Culturally Responsive TPACK

Professional learning communities (PLCs) have been widely recognized as effective structures for fostering teacher growth through collaboration, shared reflection, and collective problem-solving. DuFour and Eaker (1998) define PLCs as spaces where teachers take collective responsibility for student learning and engage in continuous improvement. Subsequent research emphasizes that PLCs support knowledge sharing, peer mentoring, and professional identity formation, primarily when structured around authentic classroom challenges (Katrien, 2017; Stoll et al., 2006).

From the perspective of adult learning theory, Knowles (1978), PLCs function effectively when they are problem-centered, relevant to participants' immediate needs, and grounded in collaborative inquiry rather than abstract theory. In this sense, PLCs create opportunities for teachers to actively shape their professional development by addressing real instructional dilemmas.

In culturally diverse or faith-based educational contexts, PLCs also become arenas where teachers negotiate how pedagogy and technology can be adapted to reflect local cultural and

religious values. Research on culturally responsive PLCs suggests that collaboration across different backgrounds enables teachers to co-construct practices that are both pedagogically effective and culturally appropriate (He et al., 2025). Thus, PLCs can be understood not only as professional development mechanisms but also as cultural negotiation zones.

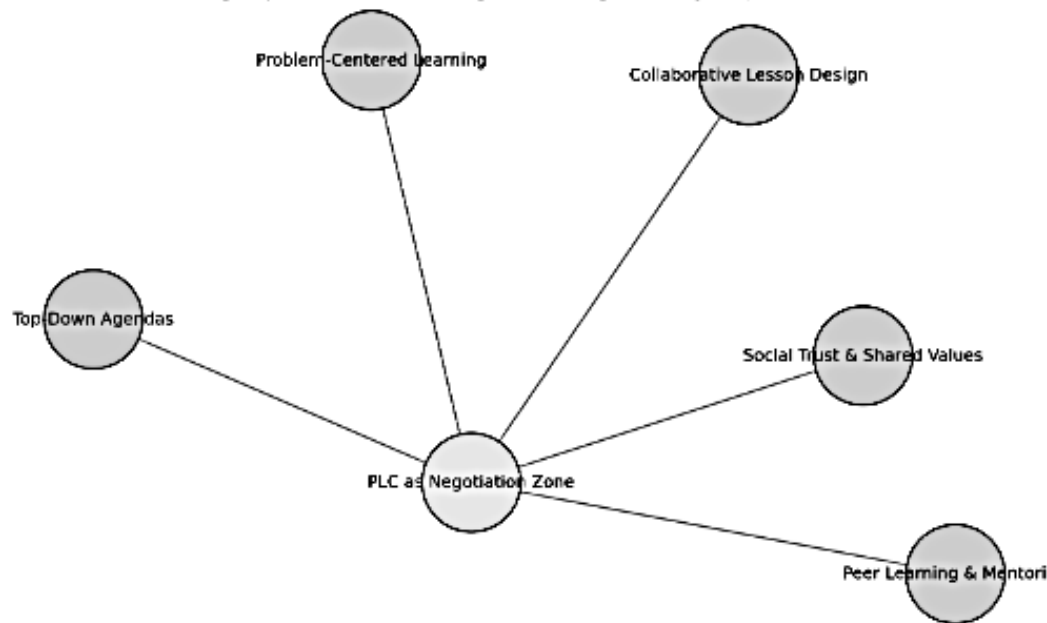


Figure 3. The coding map for RQ3 illustrates how the PLC functioned as a negotiation zone, where teachers aligned technology integration with their faith and cultural values in their EFL classrooms. On the one hand, PLCs facilitated culturally responsive TPACK through collaborative lesson design (e.g., Prophet Nuh narratives, *sambal uleg* advertisements), peer mentoring that bridged Islamic-based universities and non-Islamic-based universities' teacher backgrounds, and problem-centered discussions grounded in classroom realities such as assessment and digital tools. These dynamics were supported by social trust and shared values, creating a safe space for reflective dialogue and collective innovation within the PLC.

Within the observed madrasah PLC, these theoretical insights were reflected in practice. The professional learning community (PLC) became a central arena where teachers negotiated the intersection of technology, pedagogy, content, and cultural-religious values. Observations of PLC meetings (IN–ON–IN cycles), along with agendas and note-taking, showed that teachers used the forum to share strategies, co-develop lesson plans, and reflect on challenges. For instance, in one session, teachers collaboratively designed a narrative text lesson on Prophet Nuh and an advertisement lesson using *Sambal Uleg* and *Pisang Kepok*, demonstrating how local cultural and Islamic values were embedded in TPACK through a collaborative design approach.

Reflective conversations indicated that teachers valued the PLC as a safe space for problem-solving and peer mentoring. Teachers without Islamic educational backgrounds (from non-Islamic-based universities) reported learning how to effectively embed Qur'anic values through collaboration with colleagues from Islamic-based university backgrounds. This dynamic illustrates how the PLC mitigated differences in background knowledge and promoted culturally responsive

practice. One participant noted, "Through PLC, we learn not only about teaching methods and media but also how to align with the Islamic values expected in madrasah."

From an adult learning theory perspective, the PLC reflected principles of relevance and problem-centeredness (Knowles, 1978). Discussions were grounded in immediate classroom needs, such as assessment, digital tools, or managing online learning, rather than abstract theory. This practical focus reinforced teachers' engagement and ownership of professional growth.

From a PLC lens, the findings align with DuFour and Eaker's (1998) conception of PLCs as communities that foster collective responsibility and continuous improvement. However, the data also revealed limitations: discussions sometimes followed top-down agendas (e.g., *Moderasi Beragama (Moderation of Religion)* set by ministry policy), which constrained open exploration and risked framing PLCs more as compliance spaces than organic communities of practice.

From a cultural-TPACK lens, the PLC functioned as a negotiation zone where faith, culture, and technology were aligned. The collaborative creation of lesson plans that embedded Qur'anic verses and local culture into English teaching exemplifies how PLCs facilitated culturally responsive TPACK. This resonates with recent studies (Alhanachi et al., 2021; He et al, 2025) that show PLCs are effective frameworks for developing context-sensitive TPACK, particularly in culturally diverse or faith-based educational environments.

In short, PLCs both facilitated culturally responsive TPACK by fostering collaboration, peer learning, and contextualized lesson design and at times hindered it, when institutional agendas overshadowed bottom-up innovation.

The three research questions illuminate how technology integration in Indonesian Islamic schools cannot be reduced to the technical interplay of pedagogy, content, and technology alone. Instead, it is fundamentally shaped by the intersections of faith, culture, and institutional structures. First, religious and cultural epistemologies deeply informed teachers' TPACK practices. Lesson planning and classroom observations demonstrated how pedagogical content was consistently mediated through Qur'anic principles and local cultural references, producing what can be described as a faith-informed TPACK.

Second, the process of aligning technology with Islamic educational values revealed both persistent barriers and creative opportunities. Infrastructural constraints and uneven digital access limited the effectiveness of online and blended learning, while differences in teacher backgrounds (Islamic-based universities vs. non-Islamic-based universities) created knowledge gaps in embedding Islamic values. However, these challenges also stimulated innovation: teachers experimented with Smart TVs, multimedia tools, and video-based projects contextualized with local culture, thus turning constraints into drivers of pedagogical creativity.

Third, PLCs emerged as a critical mediating space where these negotiations unfolded. As communities of practice, they facilitated peer learning, collaborative lesson design, and reflective dialogue that bridged the gaps between teachers from diverse backgrounds. Thus, PLCs functioned as sites of empowerment, facilitating culturally responsive TPACK, and as sites of constraint, particularly when top-down agendas limited open exploration.

Synthesizing these dimensions, the findings suggest that culturally and faith-informed TPACK development in madrasahs is best understood as a dynamic negotiation process. Teachers are not merely integrating technology into their teaching but actively balancing policy mandates,

infrastructural realities, professional learning spaces, and the moral-ethical frameworks that define Islamic schooling. This negotiation highlights the importance of rethinking TPACK not as a culturally neutral model but as one that is contextually and epistemologically situated, a process of pedagogical reasoning inseparable from faith and culture.

5. Discussion

This study aimed to investigate how faith and cultural beliefs influence English teachers' integration of technology in Indonesian madrasahs, the challenges and opportunities that arise in this process, and the role of professional learning communities (PLCs) in facilitating culturally responsive TPACK development. The findings confirm that technology integration in faith-based schools is not a culturally neutral process but intensely mediated by religious values, institutional mandates, and local cultural practices.

At the theoretical level, the TPACK framework Koehler and Mishra (2009) has often been promoted as a universalist model for understanding how teachers integrate technology, pedagogy, and content knowledge. However, scholars increasingly caution against treating TPACK as context-free, noting that classroom technology use is always embedded in broader socio-cultural and institutional environments (Chai & Koh, 2017; Lantz-andersson et al., 2018). In Islamic schools, these socio-cultural dynamics are inseparable from religio-cultural epistemologies, ways of knowing and teaching that foreground Qur'anic principles, prophetic traditions, and local cultural values (Maulana, 2024). Thus, teaching practices in madrasahs must be understood as responses to curricular standards and as enactments of faith-informed obligations and communal identity.

The findings of this study extend the literature by illustrating how technology integration in Islamic schools can be conceptualized as faith-informed TPACK. Teachers consistently infused Islamic values and local culture into their English teaching through lesson plans and classroom enactments. For instance, in procedure text lessons on food, teachers embedded Qur'an Surah Al-Baqarah 168 to emphasize the importance of consuming halal food; in narrative text lessons, the story of Prophet Nuh was adapted as teaching material; and in advertisement lessons, culturally resonant products such as *Sambal Uleg* and *Pisang Kepok* were employed as authentic texts. These examples demonstrate that technology use, whether through Smart TVs, multimedia presentations, or student-created videos, was not simply a technical choice but filtered through moral, cultural, and religious appropriateness. In this sense, madrasah teachers functioned as pedagogical designers and guardians of values in digital classrooms, ensuring that technology-mediated learning aligned with Qur'anic teachings and local traditions.

At the same time, the findings highlight the challenges and opportunities teachers encountered in aligning technology with Islamic educational values. Consistent with Ertmer (1999) distinction, both first-order barriers (e.g., limited access to smartphones, laptops, and internet connectivity) and second-order barriers (e.g., student motivation, parental involvement, and teacher confidence) were evident. These challenges were particularly acute during the pandemic, when online learning exposed the digital divide and exacerbated issues of assessment and engagement. Nevertheless, as Owston (2007) and Tseng et al. (2011) suggest, contextual constraints can also serve as drivers of innovation. Teachers in this study developed creative strategies, such as assigning video projects contextualized with Islamic and local cultural themes, which met curricular and policy demands and enhanced student creativity and engagement. Institutional mandates from the Ministry of Education and the Ministry of Religious Affairs likewise

acted as a double-edged sword, creating pressure but also opening opportunities for professional development and technological experimentation (Owston, 2007; Tseng et al., 2011)

The PLC context further shaped these dynamics, functioning as a negotiation zone where teachers aligned technology integration with faith and culture. The IN–ON–IN cycles of PLC meetings allowed teachers to co-develop lesson plans, share strategies, and reflect on challenges. In these collaborative spaces, teachers without formal Islamic training (non-Islamically based university graduates) learned how to embed Quranic references and moral values into digital lessons from Islamic-based university-trained colleagues. This dynamic aligns with research on culturally responsive pedagogy, emphasizing collaboration as crucial for bridging differences in teacher backgrounds (van Compernelle & Williams, 2013). From an adult learning theory perspective, Knowles (1978), the PLCs were effective because discussions were grounded in immediate classroom problems, such as assessment, online engagement, and digital tool use, rather than abstract theory. However, the data also revealed that PLCs sometimes became constrained by top-down agendas, such as ministry-driven sessions on the moderation of religion. While important, these agendas risked reframing PLCs as compliance spaces rather than organic communities of practice (DuFour & Eaker, 1998).

The findings of this study challenge the prevailing tendency in earlier TPACK scholarship to present the framework as a culturally neutral model of technology integration. Much of the prior literature (Voogt et al., 2013; Mishra, 2019) underscores TPACK's role in enhancing pedagogical efficiency and fostering digital literacy, yet it rarely interrogates how cultural or religious values mediate this process. By contrast, the present study demonstrates that in Indonesian madrasahs, technology adoption is not simply a technical or pedagogical act but a faith-informed negotiation. Teachers embedded Qur'anic references and local cultural products into lesson designs delivered through Smart TVs, multimedia presentations, and video projects, illustrating that digital practices were consistently filtered through moral and cultural appropriateness. This extends the arguments of Chai and Koh (2017) and Isnandar et al. (2025), who observed that technology acceptance in faith-based schools involves reconciling religious values with modern pedagogical imperatives. Unlike AL-Takhayneh et al. (2022), who attribute resistance to innovation primarily to technical barriers and attitudinal factors, the present study shows that in madrasahs, resistance is simultaneously an act of value preservation, transforming potential obstacles into opportunities for culturally responsive pedagogy.

The role of Professional Learning Communities (PLCs) further illustrates how global frameworks must be reinterpreted in faith-based contexts. Previous studies (Stoll et al., 2006; Taimalu & Luik, 2019) have established PLCs as effective structures for teacher collaboration and professional growth; however, they often frame their function in terms of skill enhancement and problem-solving, divorced from cultural or moral considerations. In contrast, the current findings indicate that PLCs in madrasahs serve as negotiation zones where teachers collaboratively reconcile state-driven digital reforms with Islamic educational values. This dual function both confirms Rohmah et al. (2019) and Siddiqui (2025), who found that PLCs in Islamic schools facilitated culturally sensitive lesson planning, and extends global understandings of PLCs by highlighting their role in mediating between policy pressures and religious commitments. While echoing concerns raised by Martin et al. (2025) about contextual challenges in technology adoption, the study reveals that PLCs in madrasahs are uniquely situated to transform constraints, such as uneven teacher backgrounds or institutional mandates, into collaborative opportunities for

faith-informed TPACK development. Thus, rather than operating merely as professional support structures, PLCs in faith-based EFL contexts emerge as arenas of moral, cultural, and pedagogical negotiation that enrich and complicate existing models of technology integration.

This study contributes to the broader literature on technology integration by demonstrating that faith and culture are not peripheral concerns, but rather constitutive elements of how teachers conceptualize and enact TPACK. For Indonesian madrasahs, and potentially for other faith-based educational settings, the implication is clear: technology integration is always more than technical proficiency; it is a moral, cultural, and institutional practice that requires ongoing negotiation within collaborative professional communities.

6. Conclusion

This study has demonstrated that technology integration in Indonesian madrasahs is best understood as a faith-informed and culturally situated practice. Teachers' enactments of TPACK were consistently mediated by Qur'anic principles, prophetic traditions, and local cultural references, showing that pedagogy in faith-based schools cannot be reduced to technical alignment of content, pedagogy, and technology. Instead, it involves the simultaneous negotiation of moral obligations, institutional mandates, and cultural identity.

The findings also highlight that while infrastructural limitations and uneven teacher backgrounds presented significant barriers, these constraints often became drivers of innovation. Teachers creatively adapted digital tools, such as Smart TVs and student-produced videos, to fulfill both curricular standards and religious-cultural expectations. Institutional pressures from national education and religious authorities similarly functioned as double-edged forces, generating challenges but also enabling opportunities for experimentation and growth.

Finally, the study underscores the pivotal role of PLCs as negotiation zones, where teachers collaboratively constructed culturally responsive TPACK. Through PLC activities, teachers engaged in peer mentoring, co-design of lesson plans, and reflective dialogue, bridging gaps between Islamic-based universities and non-Islamic-based universities backgrounds. However, PLCs were not without limitations, as top-down agendas sometimes constrained teacher agency, reframing them as compliance-oriented rather than bottom-up professional communities.

Taken together, these insights suggest that developing teachers' TPACK in faith-based schools requires more than technical training. It demands a contextually grounded professional learning approach that acknowledges the inseparability of pedagogy, technology, culture, and faith. For policy makers and school leaders, this means fostering PLCs that support genuine collaboration while remaining sensitive to institutional and religious frameworks. For theory, this study contributes the notion of faith-informed TPACK, extending current understandings of technology integration by situating it within the epistemological and cultural realities of Islamic schooling.

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