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Challenges Faced by Islamic Education Teachers in Implementing 21st-Century Teaching and Facilitation (Pdpc) in Malaysia: A Systematic Literature Review

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Abstract

The implementation of 21st-century teaching and facilitation (PdPc) requires teachers to shift from teacher-centred instruction to learning that is student-centred, interactive and technology-supported. In the context of Islamic Education, Islamic Education teachers (IETs) still face various challenges in implementing 21st-century PdPc, yet findings from previous studies on these challenges remain fragmented. This study aims to identify the challenges faced by IETs in implementing 21st-century PdPc in Malaysia, to analyse the themes of these challenges, and to discuss evidence-based implications and support strategies. A systematic literature review was conducted following the PRISMA 2020 guidelines, with articles searched through the Google Scholar, MyJurnal and Scopus databases. Of the 60 articles identified, 14 articles published between 2020 and 2026 met the selection criteria and were analysed thematically. The findings revealed six themes of challenges: knowledge and skills in 21st-century PdPc, mastery of technology and digital resources, time and teacher workload, teaching aids and infrastructure, training and professional development, and student factors and the learning environment. The most dominant themes were 21st-century PdPc skills and technology mastery. These challenges are interrelated and may cause IETs to remain dependent on traditional teaching methods. This study proposes support strategies at the teacher, school and training levels, including subject-specific in-service training (LADAP) for Islamic Education, a more balanced distribution of workload, and the provision of technical support. The findings may serve as a guide for teachers, school administrators and policymakers in strengthening the implementation of 21st-century PdPc in Islamic Education.

Keywords: Islamic Education Teachers, 21st-Century Teaching And Facilitation, Challenges, Systematic Literature Review, Prisma

Introduction

Background of the Study

The national education system continues to evolve in line with the demands of the 21st century, which require students to master the skills of thinking, communicating, collaborating and creating, rather than merely memorising facts. In response to this need, the Ministry of Education Malaysia (MOE) introduced 21st-Century Learning (Pembelajaran Abad ke-21, PAK21). PAK21 shifts the focus of the classroom from teacher-centred to student-centred learning. The change in terminology from Teaching and Learning (Pengajaran dan Pembelajaran, PdP) to Teaching and Facilitation (Pengajaran dan Pemudahcaraan, PdPc) indicates that the teacher's role is now more that of a facilitator who guides students in constructing their own knowledge. In this article, the classroom implementation of PAK21 is referred to as 21st-century PdPc. The core of PAK21 is the 4K1N elements, namely communication, collaboration, critical thinking, creativity and moral values, which must be integrated holistically in PdPc (Ismail Said et al. 2020). The success of PAK21 also depends largely on teacher readiness, particularly in applying higher-order thinking skills (HOTS) (Bernard Tahim Bael et al. 2021).

In the context of Islamic Education, these demands are even more challenging. Islamic Education teachers (IETs) do not merely deliver knowledge; they also shape students' character (akhlak), appreciation and practice of Islam. The subject content is also broad, covering Quranic recitation (Tilawah al-Quran), memorisation (hafazan), Islamic creed (Akidah), worship (Ibadah), Prophetic history (Sirah), Islamic manners (Adab) and Jawi. Each of these areas requires a different pedagogical approach. IETs are expected to preserve the authenticity of Islamic content and sources of knowledge while using strategies that are interactive, technology-supported and conducive to critical thinking. Previous studies show that such efforts have been carried out in various forms. Examples include the use of technology-based teaching aids in hafazan teaching at Tahfiz Model Ulul Albab (TMUA) schools (Muhd Zulhilmi Haron et al. 2020), digital applications in Maharat al-Quran (Nik Md Saiful Azizi Nik Abdullah et al. 2021), and gamification in the teaching of Sirah (Fathi Abdullah & Khadijah Abdul Razak 2021).

Nevertheless, studies on the implementation of 21st-century PdPc among IETs have been conducted in highly diverse contexts, namely primary schools, secondary schools, tahfiz schools, Islamic educational institutions and pre-service teachers. These studies also employed different designs, including surveys, case studies, mixed methods, concept papers and literature reviews. As a result, findings on the challenges faced by IETs remain fragmented and have not been consolidated into a current and systematic synthesis. A systematic literature review is therefore needed to organise this evidence so that the actual challenges faced by IETs can be understood more comprehensively.

Problem Statement

Although 21st-century PdPc has been implemented in schools for many years, empirical evidence shows that the PdPc practices of IETs have yet to change fully. Islamic Education teaching has been found to remain teacher-centred, based on chalk and talk and focused on the memorisation of facts (Fathi Abdullah & Khadijah Abdul Razak 2021). IETs also continue to rely heavily on lectures, textbooks and the whiteboard (Muhammad Zikir Romlee & Muhammad Mustaqim Roslan 2025; Zulkifli et al. 2025). Consequently, the goal of 21st-

century PdPc to produce students who are active, critical and creative is difficult to achieve fully in Islamic Education.

This problem stems from both teachers' internal factors and environmental factors. In terms of internal factors, the skills dimension of IETs recorded the lowest mean score compared with knowledge, attitude and motivation (Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman 2025). The Technological Pedagogical Content Knowledge (TPACK) of IETs is also only at a moderate level (Jahidi Saili Muhamad et al. 2025). IETs are also weak in constructing HOTS questions (Rosnani Hashim et al. 2022). In terms of environmental factors, IETs are burdened with duties outside PdPc, such as managing school religious programmes and clerical work (Lim et al. 2024; Nur Adibah Liyana Awi & Hafizhah Zulkifli 2021). These tasks limit the time teachers have to plan creative PdPc and are associated with time constraints and work stress among teachers (Suhaimi Kamarudin & Muhamad Suhaimi Taat 2020). In addition, limited ICT infrastructure, overcrowded classes (Muhammad Sabri Sahrir et al. 2020) and a packed syllabus (Rosnani Hashim et al. 2022) further hinder interactive 21st-century PdPc activities.

Although these challenges have been reported, findings from previous studies remain separated by subject area, school level and research method. The systematic review by Wardyawaty Rajikal and Mohd Isa Hamzah (2020) did discuss 21st-century PdPc among IETs, but its scope covered only studies published before 2020. Hence, that review does not capture developments after the COVID-19 pandemic, which accelerated the use of technology in education. The systematic review by Zulkifli Abd Mubi et al. (2025), meanwhile, focused only on the use of Quranic Studies (Pengajian al-Quran) textbooks. Therefore, there is still no up-to-date synthesis that compiles, categorises and thematically analyses the challenges faced by IETs in implementing 21st-century PdPc for the period 2020 to 2026. Such a synthesis also needs to link these challenges to evidence-based implications and support strategies. It is this gap that motivated the present study.

More specifically, the motivation for this study rests on academic, theoretical and practical considerations. Academically, although the challenges faced by IETs have been widely reported, the evidence remains scattered across different subjects, school levels and research designs, and the most recent systematic review on this topic (Wardyawaty Rajikal & Mohd Isa Hamzah 2020) predates the post-pandemic period. Without an up-to-date synthesis, researchers and policymakers lack a consolidated picture of which challenges are most common and how they relate to one another. Theoretically, the shift from PdP to PdPc redefines the teacher as a facilitator and requires the integration of technology, pedagogy and content knowledge (Jahidi Saili Muhamad et al. 2025). In Islamic Education, this integration is particularly complex because teachers must preserve the authenticity of religious content while adopting interactive and technology-supported strategies. Understanding how the internal capacities of IETs interact with environmental constraints is therefore necessary to explain why changes in classroom practice have been slow.

Practically, several developments make this study timely. The COVID-19 pandemic accelerated the use of digital technology in education, raising new expectations regarding the digital competence of IETs. At the same time, IETs continue to report heavy non-teaching workloads, limited infrastructure and generic training that does not reflect the needs of specific fields such as hafazan, Maharat al-Quran and Sirah (Lim et al. 2024; Muhammad Sabri

Sahrir et al. 2020). These unresolved issues suggest that current support efforts may not be reaching IETs where they are most needed. By consolidating recent evidence, this study seeks to provide a basis for more targeted and evidence-based support for IETs, school administrators and training providers.

Research Objectives

This study aims to:

1) Identify the challenges faced by IETs in implementing 21st-century PdPc in Malaysia based on articles that meet the selection criteria.
2) Analyse the themes of challenges in implementing 21st-century PdPc, taking into account the contexts and findings of the selected studies.
3) Discuss the implications of the review findings and the support strategies that can be proposed for IETs based on the evidence analysed.

Research Questions

This study is guided by the following questions:

1) What are the challenges faced by IETs in implementing 21st-century PdPc in Malaysia based on articles that meet the selection criteria?
2) What are the themes of challenges in implementing 21st-century PdPc, taking into account the contexts and findings of the selected studies?
3) What are the implications of the review findings and the support strategies that can be proposed for IETs based on the evidence analysed?

Significance of the Study

This study is important for IETs because it consolidates the challenges they commonly face in implementing 21st-century PdPc. With this overview, IETs can evaluate their own PdPc practices and identify the skills that need to be strengthened, particularly in the use of technology and the construction of HOTS questions. This study also helps IETs plan more student-centred PdPc, taking into account the time constraints and facilities available in their respective schools.

This study is also important for school administrators. Findings from previous studies show that non-teaching workload, limited infrastructure and a lack of technical support hinder the implementation of 21st-century PdPc. This information can help administrators distribute duties more fairly, provide adequate ICT facilities and build a school culture that supports teachers, for example through Professional Learning Communities (PLCs).

For policymakers and training providers such as the MOE, the Islamic Education Division, the Institute of Teacher Education (IPG) and universities, the findings of this study can serve as a basis for designing in-service training (Latihan Dalam Perkhidmatan, LADAP) that is specific to the fields of Islamic Education, rather than generic 21st-century PdPc training. This study can also help them assess the extent to which the Islamic Education curriculum and textbooks are aligned with the demands of 21st-century PdPc.

Finally, this study contributes to researchers in the field of Islamic Education pedagogy. It maps the current evidence on the challenges faced by IETs and identifies areas that remain

under-researched, such as intervention studies and studies at the primary school level. This map can serve as a reference for researchers in planning future studies.

Methodology

Research Design

This study employed a systematic literature review (SLR) design. The process of identifying, screening and selecting articles was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al. 2021). This design was chosen because it enables the researcher to collect, evaluate and synthesise findings from previous studies in a structured, transparent and replicable manner. This approach differs from conventional narrative reviews, which are more susceptible to the subjective selection of sources.

The selected articles employed diverse designs, namely quantitative, qualitative, mixed methods, concept papers and literature reviews. Therefore, this study adopted a qualitative synthesis approach. The findings of each article were extracted, coded and grouped into themes to answer the research questions. This approach is appropriate because the study aims to understand the types and patterns of challenges faced by IETs, rather than to measure effect sizes statistically.

Literature Search Strategy

The article search was conducted in October 2026 through three databases, namely Google Scholar, MyJurnal and Scopus. Google Scholar was selected for its broad coverage, including Malay-language articles that are not indexed in international databases. MyJurnal indexes locally published journals, including those in the fields of education and Islamic Studies. Scopus was used to obtain articles from high-impact international journals.

The search keywords were developed based on three main concepts in the study title, namely (i) IETs, (ii) 21st-century PdPc, and (iii) challenges, including term variations such as 21st-century learning. These keywords were combined using the Boolean operators AND and OR in both Malay and English, as shown in Table 1.

Table 1
Search Strings

Language	Search String
Malay	(“guru Pendidikan Islam” OR “GPI” OR “guru agama”) AND (“Pengajaran dan Pemudahcaraan Abad ke-21” OR “PdPc Abad ke-21” OR “Pembelajaran Abad ke-21” OR “PdP Abad ke-21”) AND (“cabaran” OR “kekangan” OR “halangan” OR “kesediaan”)
English	(“Islamic Education teacher” OR “Islamic Education teachers” OR “religious teacher”) AND (“21st century teaching and facilitation” OR “21st century teaching and learning” OR “21st century learning” OR “21st century teaching”) AND (“challenge” OR “constraint” OR “barrier” OR “readiness”) AND “Malaysia”

Article Selection Criteria

The inclusion and exclusion criteria were established before the screening process began so that article selection could be carried out consistently and in line with the focus of the study.

The criteria cover six aspects, namely year of publication, language, type of source, study focus, full-text accessibility, and population and context.

The period 2020 to 2026 was selected to capture recent developments in the implementation of 21st-century PdPc, including the period after the COVID-19 pandemic. The detailed selection criteria are summarised in Table 2.

Table 2
Article Selection Criteria

Aspect	Inclusion Criteria	Exclusion Criteria
Year of Publication	Published between 2020 and 2026	Outside the specified period
Language	Malay or English	Other languages
Type of Source	Journal articles or proceedings reporting empirical studies, concept papers and relevant literature reviews	Books, book chapters, editorials and unpublished theses
Study Focus	Implementation of 21st-century PdPc reporting challenges, barriers or needs for improvement based on findings	General discussions without evidence related to the research questions
Accessibility	Full text available for evaluation	Full text unavailable after documented attempts to obtain the article
Population and Context	Studies involving IETs (including pre-service Islamic Education teachers) in Malaysia	Studies involving teachers of other subjects or conducted outside Malaysia

Article Selection Process Following PRISMA
A total of 60 articles were identified through the initial search. After duplicates were removed and the articles were screened based on their titles, abstracts and full texts, 14 articles were included in this systematic literature review, as shown in Table 3.

Table 3
Article Selection Process Following PRISMA

Stage	Number of Articles
Identification (articles identified through database searches)	60
Screening (articles assessed based on title and abstract)	30
Eligibility (articles assessed through full-text reading)	20
Inclusion (articles meeting all the specified selection criteria)	14

Data Analysis
The data were analysed using a thematic analysis approach (Braun & Clarke 2006) in three stages. In the first stage, the key information from each article was extracted and entered into a synthesis matrix, as shown in Table 4. The extracted information comprised the authors and year of publication, the article type and research design, the study focus, and the main

findings related to the challenges of implementing 21st-century PdPc. This matrix enabled the researcher to compare findings across articles and served as the basis for the coding process.

In the second stage, the findings of each article were read repeatedly, and each reported challenge was assigned an initial code inductively. Examples of initial codes include “weak ICT mastery”, “clerical workload”, “limited ICT infrastructure” and “reliance on traditional methods”. Codes with similar meanings were then merged to avoid overlap.

In the third stage, related codes were grouped into broader themes. Each theme was then reviewed by referring back to the original data in the synthesis matrix. This step aimed to ensure that each theme genuinely represented the findings of the articles and was supported by more than one article. As a result of this process, the challenges faced by IETs were grouped into six main themes, as described in Section 3.3. The number of articles reporting each theme was also recorded to indicate the most dominant challenges.

Findings

Profile of the Selected Articles

A total of 14 articles were analysed in this study. In terms of year of publication, three articles were published in 2020, three in 2021, one in 2022, one in 2024 and six in 2025. Almost half of the articles were published in 2025. This indicates that the implementation of 21st-century PdPc among IETs remains an active area of research and is attracting increasing attention from researchers.

In terms of article type, nine articles were empirical studies, two were concept papers and three were literature reviews. Of the nine empirical studies, four employed a quantitative design (Fathi Abdullah & Khadijah Abdul Razak 2021; Jahidi Saili Muhamad et al. 2025; Muhd Zulhilmi Haron et al. 2020; Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman 2025). Three employed a qualitative design (Muhammad Zikir Romlee & Muhammad Mustaqim Roslan 2025; Nik Md Saiful Azizi Nik Abdullah et al. 2021; Zuraidah Ramdzan & Ruhayati Ramly 2025). The remaining two employed mixed methods (Muhammad Sabri Sahrir et al. 2020; Rosnani Hashim et al. 2022).

These studies were conducted in diverse contexts, including TMUA schools, primary schools, secondary schools, School Transformation Programme 2025 (TS25) schools, ma’had institutions and pre-service teachers in higher education. The areas studied also covered various branches of Islamic Education, such as hafazan and Maharat al-Quran, Sirah and Islamic Civilisation, Arabic Language, and Quranic Studies textbooks. This diversity allows the challenges faced by IETs to be viewed from multiple perspectives. However, it also means that the evidence for each context remains limited.

Article Synthesis Table

Table 4 summarises the 14 articles that met the selection criteria in Table 2. For each article, the table records the authors, article type, study focus and main findings related to the challenges faced by IETs in implementing 21st-century PdPc.

Table 4
Article Synthesis Table

No.	Authors & Year	Article Type	Study Focus	Main Findings
1	Muhd Zulhilmi Haron et al. (2020)	Empirical (Quantitative: Survey)	Examined patterns of technology-based teaching aid use among TMUA teachers in relation to PAK21 LADAP	- Gaps in the use of technology-based teaching aids according to the frequency of LADAP training - Difficulty integrating technology consistently in hafazan PdPc
2	Muhammad Sabri Sahrir et al. (2020)	Empirical (Mixed Methods)	Evaluated self-practice and suggestions for improving the PAK21 4C concept in Arabic Language / Islamic Studies	- Lack of ICT infrastructure (projectors, poor internet) - Too many students and cramped classrooms - Lack of financial allocation and subject-specific training
3	Wardyawaty Rajikal & Mohd Isa Hamzah (2020)	Literature Review (SLR / PRISMA)	Examined publication trends on the readiness, practice and effectiveness of PAK21 among IETs	- ICT skills still low (senior and pre-service teachers) - Lack of HOTS / critical thinking training - Packed syllabus, non-teaching workload and persistence of traditional methods
4	Nur Adibah Liyana Awi & Hafizhah Zulkifli (2021)	Concept Paper	Analysed creativity practices, 4C elements and IET challenges in PAK21	- Weak ICT mastery (especially among senior teachers) - Heavy external workload (KBS, KCJ, secretarial duties) - Time constraints in planning creative PdPc
5	Nik Md Saiful Azizi Nik Abdullah et al. (2021)	Empirical (Qualitative: Interviews)	Explored the readiness and understanding of Maharat al-Quran teachers towards PAK21	- Limited exposure to PAK21 guidelines specific to al-Quran subjects - Challenges in integrating digital applications (Quizizz, video) effectively
6	Fathi Abdullah & Khadijah Abdul Razak (2021)	Empirical (Quantitative)	Examined students' interest in and acceptance of a PAK21 Sirah gamification application	- Teacher-centred teaching (chalk and talk, memorisation of facts) - Lack of skills in developing digital gamification media - Difficulty engaging students to appreciate Sirah contextually
7	Rosnani Hashim et al. (2022)	Empirical (Mixed Methods)	Explored the perspectives of 370 IETs on the Islamic Education curriculum and PAK21	- Weaknesses in constructing HOTS questions and implementing PBS - Overly packed syllabus

No.	Authors & Year	Article Type	Study Focus	Main Findings
				- Frequent MOE policy changes, overcrowded classes and students' weak Jawi / al-Quran literacy
8	Lim et al. (2024)	Concept Paper	Identified IET challenges in technology integration and proposed solutions in the PAK21 era	- Lengthy / complex process of designing quality digital teaching aids - Clerical work and duplicate reporting causing stress - Moderate self-efficacy and limited technical support
9	Muhammad Zikir Romlee & Muhammad Mustaqim Roslan (2025)	Empirical (Qualitative: Case Study)	Explored teaching aid elements that support IETs' PdPc in an Islamic educational institution	- Limited use of technology-based / interactive teaching aids - Time constraints in preparing visual teaching aids - Rigid reliance on traditional teaching methods
10	Zulkifli et al. (2025)	Literature Review (Comparative Qualitative)	Analysed differences in effectiveness between the PAK21 method and traditional methods	- Reliance on old teaching paradigms (lectures / memorisation) - Weak competence in applying HOTS and analytical questions - Rigid reliance on textbooks / whiteboard
11	Zuraidah Ramdzan & Ruhayati Ramly (2025)	Empirical (Qualitative: Case Study)	Explored intrinsic and extrinsic motivating factors for PAK21 practice among IETs in TS25 schools	- Difficulty planning activities for students of diverse cognitive levels - Additional / clerical duties affecting consistency in PdPc - Need for environmental support and continuous training
12	Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman (2025)	Empirical (Quantitative: Survey)	Assessed the readiness of primary school IETs (knowledge, attitude, motivation)	- The skills dimension recorded the lowest mean score - Weaknesses in handling digital tools and preparing computer-based teaching aids - Difficulty managing time for PAK21 activities
13	Jahidi Saili Muhamad et al. (2025)	Empirical (Quantitative: SEM)	Analysed IETs' TPACK and its effect on the PdPc of Sirah and Islamic Civilisation	- Moderate TPACK limits software / technology integration - Dominant teacher-centred teaching causes students to lose focus - Student discipline problems disrupt lessons

No.	Authors & Year	Article Type	Study Focus	Main Findings
14	Zulkifli Abd Mubi et al. (2025)	Literature Review (SLR / PRISMA)	Analysed the use of Quranic Studies / Islamic Education textbooks and 21st-century integration	- Challenges in integrating printed textbooks with digital modules - Quality of textbook activities not yet aligned with HOTS / PAK21 demands - Passive attitude of teachers who rely heavily on textbooks without technology-based teaching aids

Note. HOTS = higher-order thinking skills; ICT = information and communication technology; KBS = Kem Bestari Solat (prayer excellence camp); KCJ = Kem Cemerlang Jawi (Jawi excellence camp); LADAP = Latihan Dalam Perkhidmatan (in-service training); PBS = Pentaksiran Berasaskan Sekolah (school-based assessment); SEM = structural equation modelling; SLR = systematic literature review; TMUA = Tahfiz Model Ulul Albab; TS25 = School Transformation Programme 2025.

Challenges Faced by Islamic Education Teachers

The thematic analysis of the 14 articles generated six themes of challenges. Most articles reported more than one challenge. This indicates that the challenges faced by IETs are interrelated and do not occur in isolation.

Knowledge and Skills Challenges in 21st-Century PdPc

This theme is among the most frequently reported, appearing in nine of the 14 articles. The most prominent challenge is that IETs continue to rely on traditional teaching approaches. Islamic Education teaching was found to remain teacher-centred, based on chalk and talk and focused on the memorisation of facts (Fathi Abdullah & Khadijah Abdul Razak 2021). A similar pattern was reported in the teaching of Sirah and Islamic Civilisation, where this approach caused students to lose focus (Jahidi Saili Muhamad et al. 2025). IETs also continue to rely heavily on lectures, memorisation, textbooks and the whiteboard (Muhammad Zikir Romlee & Muhammad Mustaqim Roslan 2025; Zulkifli et al. 2025). Some IETs were also passive and overly dependent on textbooks without using technology-based teaching aids (Zulkifli Abd Mubi et al. 2025).

The second challenge in this theme is weakness in applying HOTS. IETs were found to be weak in constructing HOTS questions and implementing school-based assessment (Rosnani Hashim et al. 2022). They were also less competent in constructing questions that promote critical and analytical thinking (Zulkifli et al. 2025). This problem is related to the lack of HOTS training received by IETs (Wardyawaty Rajikal & Mohd Isa Hamzah 2020).

The third challenge relates to the readiness of IETs. The skills dimension of IETs recorded the lowest mean score compared with knowledge, attitude and motivation (Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman 2025). This finding suggests that IETs understand and hold positive attitudes towards 21st-century PdPc but are not yet sufficiently skilled to implement it in the classroom. IETs also find it difficult to plan 21st-century PdPc activities suited to students of different cognitive levels (Zuraidah Ramdzan & Ruhayati Ramly 2025).

Technology and Digital Resource Mastery Challenges

This theme was also reported in nine articles. Several studies found that ICT mastery among IETs remains low. This problem is most evident among senior teachers (Nur Adibah Liyana Awi & Hafizhah Zulkifli 2021) and also occurs among pre-service teachers (Wardyawaty Rajikal & Mohd Isa Hamzah 2020). At the primary school level, IETs are weak in handling digital tools and using computers to prepare teaching aids (Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman 2025). The moderate TPACK level of IETs also limits the integration of technology in PdPc (Jahidi Saili Muhamad et al. 2025). Teachers' self-efficacy in integrating technology is likewise only moderate (Lim et al. 2024).

This challenge is also evident in the areas of al-Quran and Sirah. TMUA teachers find it difficult to integrate technology consistently in hafazan PdPc (Muhd Zulhilmi Haron et al. 2020). Maharat al-Quran teachers find it difficult to use digital applications such as Quizizz and videos effectively (Nik Md Saiful Azizi Nik Abdullah et al. 2021). In Sirah, IETs lack the skills to develop digital gamification media (Fathi Abdullah & Khadijah Abdul Razak 2021). In addition, IETs find it difficult to combine the use of printed textbooks with digital modules (Zulkifli Abd Mubi et al. 2025). These findings indicate that the technology challenge is not merely a matter of general ICT skills, but of adapting technology to the nature of Islamic Education content.

Time and Teacher Workload Challenges

This theme was reported in seven articles. IETs are burdened with heavy duties outside PdPc. For example, they are required to manage school religious programmes such as Kem Bestari Solat and Kem Cemerlang Jawi, in addition to secretarial duties (Nur Adibah Liyana Awi & Hafizhah Zulkifli 2021). Clerical work and instructions for duplicate reporting, both manually and online, also place stress on teachers (Lim et al. 2024). Such additional duties prevent 21st-century PdPc from being planned consistently (Zuraidah Ramdzan & Ruhayati Ramly 2025).

Time constraints also stem from the curriculum. The Islamic Education syllabus is overly packed with topics, leaving limited time for interactive discussion (Rosnani Hashim et al. 2022; Wardyawaty Rajikal & Mohd Isa Hamzah 2020). As a result, IETs lack time to plan creative PdPc (Nur Adibah Liyana Awi & Hafizhah Zulkifli 2021) and to prepare teaching aids, whether visual aids (Muhammad Zikir Romlee & Muhammad Mustaqim Roslan 2025) or digital aids that require a long time to design (Lim et al. 2024). They also find it difficult to manage time when conducting 21st-century PdPc activities in the classroom (Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman 2025).

Teaching Aids and Infrastructure Challenges

This theme was reported in five articles. In terms of infrastructure, schools lack ICT facilities such as LCD projectors, and internet access is poor. Insufficient financial allocation for PdPc is also a constraint (Muhammad Sabri Sahrir et al. 2020). Technical support in schools is also limited (Lim et al. 2024).

In terms of teaching aids, the use of interactive technology-based teaching aids remains limited (Muhammad Zikir Romlee & Muhammad Mustaqim Roslan 2025). The level of use of technology-based teaching aids also varies among teachers, depending on how often they attend LADAP training (Muhd Zulhilmi Haron et al. 2020). The quality of existing materials is another issue, as the activities and exercises in textbooks are not yet fully aligned with the

demands of 21st-century PdPc and HOTS (Zulkifli Abd Mubi et al. 2025). This situation may force IETs to prepare their own materials, thereby adding to the time burden discussed in Section 3.3.3.

Training and Professional Development Challenges

This theme was reported in six articles. Muhd Zulhilmi Haron et al. (2020) found that the use of technology-based teaching aids among TMUA teachers differed according to how often they attended LADAP training. This indicates that training is closely related to teachers' practice. However, most of the available training is generic, whereas IETs need formal subject-specific courses (Muhammad Sabri Sahrir et al. 2020). In addition, Maharat al-Quran teachers had limited exposure to the PAK21 implementation guidelines for their subject, and information was lost in the dissemination of these guidelines (Nik Md Saiful Azizi Nik Abdullah et al. 2021).

Specific training on critical thinking and HOTS techniques is also still lacking (Wardyawaty Rajikal & Mohd Isa Hamzah 2020). The limited technical support in schools (Lim et al. 2024) may make it difficult for teachers to put into practice what they have learned during training. Zuraidah Ramdzan and Ruhayati Ramly (2025) further emphasise that IETs need continuous training and a supportive school environment to remain motivated to implement 21st-century PdPc.

Student Factors and Learning Environment Challenges

This theme was reported in five articles. Classrooms with too many students and limited space hinder collaborative 21st-century PdPc activities (Muhammad Sabri Sahrir et al. 2020). Rosnani Hashim et al. (2022) also reported the problem of overcrowded classes. In addition, they identified two other problems beyond teachers' control, namely students' weak al-Quran and Jawi literacy, and frequent changes in MOE policy.

In terms of students, IETs find it difficult to engage students in appreciating the Sirah and relating its lessons to their own lives (Fathi Abdullah & Khadijah Abdul Razak 2021). Student discipline problems also disrupt the flow of PdPc (Jahidi Saili Muhamad et al. 2025). Furthermore, the diversity of students' cognitive levels within the same class, as discussed in Section 3.3.1, also poses difficulties for IETs (Zuraidah Ramdzan & Ruhayati Ramly 2025). These findings indicate that the success of 21st-century PdPc also depends on student readiness and classroom conditions, not solely on teacher competence.

Discussion

Discussion of the Main Challenges

The findings show that the challenges faced by IETs are interrelated. The most frequently reported themes were 21st-century PdPc skills and technology mastery, which are challenges originating from the teachers themselves. However, these challenges are aggravated by external factors such as workload, limited infrastructure and unsuitable training. For example, IETs who are less skilled in producing digital teaching aids need more time, while much of their time is already taken up by clerical work and school religious programmes (Lim et al. 2024; Nur Adibah Liyana Awi & Hafizhah Zulkifli 2021). Therefore, IETs' reliance on traditional methods (Zulkifli et al. 2025) is more accurately seen as the result of these combined challenges, rather than simply teachers' unwillingness to change.

The findings also show that IETs hold positive attitudes towards 21st-century PdPc, but their skills to implement it remain weak (Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman 2025). IETs also find it difficult to integrate technology, pedagogy and Islamic Education content (Jahidi Saili Muhamad et al. 2025), particularly in hafazan, Maharat al-Quran and Sirah (Fathi Abdullah & Khadijah Abdul Razak 2021; Muhd Zulhilmi Haron et al. 2020; Nik Md Saiful Azizi Nik Abdullah et al. 2021). This indicates that generic 21st-century PdPc training is insufficient. IETs need practical, subject-specific skills training.

The challenges reported in 2020 continued to be reported in studies published in 2025 (Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman 2025; Wardyawaty Rajikal & Mohd Isa Hamzah 2020; Zuraidah Ramdzan & Ruhayati Ramly 2025). This suggests that the fundamental challenges faced by IETs have changed little despite the increasingly widespread use of technology in education. Problems such as workload, a packed curriculum and limited infrastructure clearly cannot be resolved by teachers alone.

Finally, the success of 21st-century PdPc also depends on student and classroom conditions. Overcrowded classes, diverse student abilities, weak al-Quran and Jawi literacy, and discipline problems hinder the implementation of student-centred activities (Jahidi Saili Muhamad et al. 2025; Rosnani Hashim et al. 2022). Therefore, 21st-century PdPc in Islamic Education needs to be planned in stages and adapted to students' levels.

Implications for Islamic Education Teachers

The findings of this study have several implications for IETs. First, IETs can change their PdPc practices gradually, since pedagogical change does not necessarily begin with sophisticated technology. The 4K1N elements can be applied through simple activities that require little preparation time, such as think-pair-share and thinking maps (Ismail Said et al. 2020). This approach suits IETs who face time constraints and limited infrastructure.

Second, IETs need to strengthen their skills in constructing HOTS questions grounded in religious texts (nas). Previous studies show that IETs remain weak in this area (Rosnani Hashim et al. 2022; Zulkifli et al. 2025). This weakness can be reduced through self-directed practice, for example by constructing questions based on contemporary issues linked to Quranic verses, hadith or events from the Sirah. Through such questions, students are required to analyse and evaluate, rather than merely recall facts.

Third, IETs are encouraged to produce and share teaching aids collaboratively. Producing digital teaching aids takes a long time (Lim et al. 2024). Therefore, IETs can divide the task of producing materials and share them through PLCs at the subject panel or district level, so that each teacher does not need to prepare all the materials alone. In addition, IETs should enrich textbook content with activities that promote higher-order thinking and avoid relying entirely on textbooks. This step is important because the activities in existing textbooks are not yet fully aligned with the demands of 21st-century PdPc (Zulkifli Abd Mubi et al. 2025).

Implications for Schools and Administration

School administrators play an important role in reducing the challenges faced by IETs. Non-teaching workload is among the most frequently reported challenges (Section 3.3.3) and is associated with teachers' work stress (Lim et al. 2024; Suhaimi Kamarudin & Muhamad

Suhaimi Taat 2020). Therefore, administrators should distribute responsibilities for school religious programmes more fairly, for example by involving other teachers, school prefects or the Parent-Teacher Association (PIBG). Reports that must be submitted twice, manually and online, should also be reduced so that IETs have more time to plan PdPc.

In terms of infrastructure, administrators should ensure that Islamic Education classrooms are equipped with basic facilities such as projectors and good internet access (Muhammad Sabri Sahrir et al. 2020). Schools should also provide technical support, either from ICT teachers or in-house trainers. Without such support, the skills that teachers acquire during training may be difficult to apply in the classroom (Lim et al. 2024).

In addition, a supportive school environment is one of the factors that motivates IETs to implement 21st-century PdPc (Zuraidah Ramdzan & Ruhayati Ramly 2025). Therefore, schools should build a culture that supports this practice, for example by recognising PdPc innovations and conducting classroom observations aimed at guiding teachers rather than merely evaluating them. Schools can also provide remedial Jawi and al-Quran literacy programmes as a foundation for more active PdPc (Rosnani Hashim et al. 2022), and consider managing class sizes where school conditions permit.

Implications for Teacher Training

The findings of this study also have implications for teacher training providers. The use of technology-based teaching aids was found to be associated with the frequency of teachers' attendance at training (Muhd Zulhilmi Haron et al. 2020). However, generic 21st-century PdPc training needs to be complemented by modules specific to the fields of Islamic Education, such as hafazan, Tilawah, Sirah, Akidah and Jawi. These modules should include PdPc examples and clear guidelines (Muhammad Sabri Sahrir et al. 2020; Nik Md Saiful Azizi Nik Abdullah et al. 2021).

Training should also be more practical, since the skills dimension of IETs recorded the lowest score compared with their knowledge, attitude and motivation (Rushiha Irina Mohamed Yusof & Mohd Syaubari Othman 2025). During training, teachers should produce their own teaching aids and try out applications such as Quizizz or gamification with Islamic Education content (Fathi Abdullah & Khadijah Abdul Razak 2021; Nik Md Saiful Azizi Nik Abdullah et al. 2021). Training should also be followed by continuous coaching in schools, as one-off lecture-based training is insufficient (Zuraidah Ramdzan & Ruhayati Ramly 2025).

In addition, training providers should prioritise senior and pre-service teachers, as low ICT mastery is evident in both groups (Nur Adibah Liyana Awi & Hafizhah Zulkifli 2021; Wardyawaty Rajikal & Mohd Isa Hamzah 2020). Training can be differentiated according to teachers' skill levels. Peer coaching programmes can also be implemented, pairing younger teachers who are skilled in technology with senior teachers who are experienced in pedagogy. At the pre-service level, the IPG and universities should place greater emphasis on constructing text-based HOTS questions and integrating technology in Islamic Education pedagogy courses, so that new teachers are prepared to implement 21st-century PdPc from the start of their careers.

Conclusion

This systematic literature review aimed to identify, analyse and discuss the challenges faced by IETs in implementing 21st-century PdPc in Malaysia. A total of 14 articles published between 2020 and 2026 were selected through the PRISMA process and analysed. The analysis showed that the challenges faced by IETs can be grouped into six themes, namely knowledge and skills in 21st-century PdPc, mastery of technology and digital resources, time and teacher workload, teaching aids and infrastructure, training and professional development, and student factors and the learning environment. The two most dominant themes were 21st-century PdPc skills and technology mastery, each reported in nine articles. The most notable challenges within these two themes were reliance on traditional teaching methods, weakness in constructing HOTS questions, and a moderate level of TPACK.

The findings also show that these challenges are interrelated. Non-teaching workload, a packed syllabus, limited infrastructure and insufficiently specific training make it difficult for IETs to develop new skills, and this may cause IETs to continue relying on lectures, memorisation and textbooks. IETs generally hold positive attitudes towards 21st-century PdPc, but their skills to implement it in the classroom remain weak. These challenges also vary across the fields of Islamic Education, such as hafazan, Maharat al-Quran and Sirah. Most of the challenges reported in 2020 were still being reported in studies published in 2025, indicating that the fundamental challenges faced by IETs require more systematic solutions. Therefore, this study proposes support strategies at three levels. At the teacher level, IETs are encouraged to change their PdPc practices gradually, construct text-based HOTS questions, and share teaching aids through PLCs. At the school level, administrators should distribute workload more fairly, provide infrastructure and technical support, and build a supportive school culture. At the training level, LADAP should be designed specifically for the fields of Islamic Education, grounded in actual practice, and followed by coaching in schools.

Nevertheless, the findings of this study should be interpreted with caution due to several limitations. This study involved only 14 articles from three databases, in Malay and English only. The articles analysed were also of various types, including concept papers and literature reviews. In addition, most empirical studies relied on teachers' self-reported data, and the number of studies for each context and field remains small. Therefore, future studies should test the effectiveness of support strategies through intervention or action research, and conduct classroom observations to examine teachers' actual practices. Researchers are also encouraged to explore under-researched areas, namely Akidah, Ibadah, Adab and Jawi, to include the perspectives of students and school administrators, and to examine the challenges of using emerging technologies such as artificial intelligence (AI) in Islamic Education PdPc. Future reviews could also be expanded by using additional databases such as Web of Science and ERIC, as well as formal quality appraisal of the articles.

In conclusion, the success of 21st-century PdPc in Islamic Education cannot depend on the efforts of IETs alone. It requires comprehensive and continuous support from school administrators, training providers and policymakers, so that Islamic Education PdPc can produce students who are not only critical and creative, but who also internalise Islamic values.

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