THE EFFECT OF PROFESSIONAL DEVELOPMENT TRAINING ON ISLAMIC EDUCATION TEACHERS' INSTRUCTIONAL QUALITY

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Article Info	ABSTRACT
  OPEN ACCESS	This study examines the effect of professional development training on the instructional quality of Islamic education teachers in Malaysian secondary schools. Using a quantitative research design, data were collected from 384 Islamic education teachers across five states in Malaysia through structured questionnaires. The study employed descriptive statistics, independent samples t-tests, one-way ANOVA, and multiple regression analysis using SPSS to analyze the relationship between professional development training and instructional quality. Results revealed a significant positive relationship ($r = 0.682$, $p < 0.001$) between professional development training and instructional quality. Teachers who participated in professional development programs demonstrated significantly higher instructional quality scores (M = 4.23, SD = 0.52) compared to those without such training (M = 3.45, SD = 0.61). The regression model explained 46.5% of the variance in instructional quality ($R^2 = 0.465$, F = 110.234, $p < 0.001$). These findings highlight the critical importance of continuous professional development in enhancing Islamic education teachers' pedagogical competencies, particularly in integrating Shariah-compliant teaching methodologies and contemporary educational practices. Implications for policy makers, educational institutions, and teacher training programs are discussed.

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INTRODUCTION

Islamic education plays a fundamental role in shaping the moral, spiritual, and intellectual development of Muslim students within educational systems worldwide (Ahmad & Salleh, 2021). At the core of effective Islamic education is the principle of Shariah compliance, which ensures that teaching content, methodologies, and classroom practices align with Islamic jurisprudence and ethical standards derived from the Quran and Sunnah (Hassan, 2020). Shariah compliance in educational contexts extends beyond curriculum content to encompass pedagogical approaches, teacher-student interactions, assessment methods, and the overall learning environment (Mohd Nor & Ibrahim, 2022). Teachers of Islamic education bear the responsibility of not only transmitting religious knowledge but also modeling Islamic values and ensuring that their instructional practices reflect authentic Islamic principles (Rahman & Abdullah, 2023). The quality of instruction in Islamic education is therefore intrinsically linked to teachers' understanding and application of Shariah-compliant pedagogical practices, making professional development in this area critically important (Ismail & Mohamad, 2021).

In Malaysia, where Islam is the official religion and Islamic education is integrated into the national curriculum, Shariah compliance has become increasingly important across various sectors, including the food and beverage industry (Zainuddin et al., 2022). The Malaysian restaurant industry has witnessed growing emphasis on halal certification and Shariah-compliant practices, driven by consumer demand and regulatory frameworks established by the Department of Islamic Development Malaysia (JAKIM) (Aziz & Sulaiman, 2020). Research indicates that Malaysian restaurants have progressively adopted Shariah-compliant practices, including halal food preparation, segregation of halal and non-halal items, proper slaughtering methods according to Islamic law, and employment practices that respect Islamic principles (Noordin et al., 2021). A study by Abdul Hamid and Mohamed (2022) found that 78% of restaurants in urban Malaysian areas have obtained halal certification, reflecting a commitment to Shariah compliance that extends to ingredient sourcing, food handling procedures, and staff training on Islamic dietary laws. Furthermore, investigations into restaurant practices reveal that Shariah compliance has evolved from merely avoiding haram ingredients to encompassing comprehensive ethical business practices, including fair pricing, honest advertising, and dignified treatment of employees, all of which align with Islamic commercial jurisprudence (Maqasid al-Shariah) (Hassan & Ahmad, 2023).

The integration of Shariah-compliant practices in various sectors of Malaysian society, including restaurants, creates a sociocultural context in which Islamic education assumes heightened significance (Yusoff & Rahman, 2021). However, studies suggest that many restaurant operators and employees lack comprehensive understanding of the deeper theological and jurisprudential foundations underlying Shariah compliance, often implementing halal practices mechanically without grasping their spiritual and ethical dimensions (Ibrahim & Mohd Shah, 2022). This knowledge gap highlights a broader educational challenge: the need for more effective Islamic education that can produce individuals who not only follow Islamic guidelines but also understand their underlying wisdom and can apply Islamic principles to contemporary contexts (Abdullah & Hassan, 2020). Educational institutions, particularly schools offering Islamic education, serve as primary venues for developing such comprehensive Islamic literacy among the younger generation (Salleh & Ismail, 2023).

Despite the recognized importance of Islamic education in Malaysia's educational system, significant concerns have emerged regarding the instructional quality delivered by Islamic education teachers (Hamzah & Sulaiman, 2021). Research indicates that many Islamic education teachers struggle with

pedagogical skills, with studies showing inconsistencies in teaching methodologies, limited use of technology-enhanced learning, and inadequate application of student-centered instructional approaches (Zakaria & Ahmad, 2022). A survey conducted by Mohd Ali and Hassan (2020) across 150 secondary schools revealed that 62% of Islamic education teachers relied predominantly on traditional lecture methods, with minimal integration of interactive learning strategies or critical thinking exercises. Furthermore, only 38% of these teachers had participated in professional development training within the past three years, suggesting a significant gap in continuous professional learning (Ismail et al., 2021). The quality of instruction is further compromised by teachers' limited exposure to contemporary pedagogical theories and evidence-based teaching practices, resulting in student disengagement and superficial learning outcomes (Rahman & Mahmood, 2023). Students have reported that Islamic education classes often fail to connect religious principles with real-world applications, leading to perceptions of irrelevance and decreased motivation to engage deeply with the subject matter (Ahmad & Yusof, 2022).

Another critical problem facing Islamic education in Malaysia is the insufficient integration of Shariah compliance principles within pedagogical practice itself (Hassan & Ibrahim, 2021). While teachers may possess adequate knowledge of Islamic content, many lack training in how to teach this content using methods that exemplify Islamic educational philosophy, such as the principles of tarbiyah (holistic education), ta'dib (moral discipline), and ta'lim (instruction) (Mohd Nor, 2020). Research by Abdullah et al. (2023) found that only 41% of Islamic education teachers could articulate clear connections between their teaching methods and Islamic pedagogical principles, indicating a disconnect between content knowledge and pedagogical content knowledge. Additionally, the rapid evolution of educational technology and pedagogical innovations has created new challenges for Islamic education teachers who must navigate the integration of modern teaching tools while maintaining Shariah compliance and Islamic educational values (Sulaiman & Rahman, 2022). The COVID-19 pandemic further exposed these challenges, as many Islamic education teachers struggled to transition to online teaching platforms while preserving the spiritual and interactive dimensions essential to Islamic education (Zakaria & Mohd Ali, 2021).

To address these multifaceted challenges, systematic and comprehensive professional development training programs specifically designed for Islamic education teachers are essential (Hamzah et al., 2022). Such programs must integrate three critical components: enhancement of content knowledge in Islamic studies and jurisprudence, development of contemporary pedagogical skills grounded in evidence-based practices, and cultivation of pedagogical content knowledge that enables teachers to translate Islamic principles into effective instructional strategies (Salleh & Hassan, 2023). Professional development should focus on equipping teachers with competencies in differentiated instruction, technology integration, assessment for learning, and student engagement techniques, all while ensuring that these approaches remain consistent with Shariah compliance and Islamic educational philosophy (Ahmad & Ibrahim, 2021). Furthermore, ongoing professional development can help teachers develop reflective practice skills, enabling them to continuously evaluate and improve their instructional quality in alignment with both educational best practices and Islamic values (Rahman & Abdullah, 2022). This study therefore investigates the effect of professional development training on the instructional quality of Islamic education teachers in Malaysian secondary schools, aiming to provide empirical evidence that can inform policy decisions and professional development program design.

1.1 Research Objectives

The primary objectives of this study are:

1. To assess the current level of instructional quality among Islamic education teachers in Malaysian secondary schools.
2. To examine the extent of professional development training participation among Islamic education teachers.
3. To determine the relationship between professional development training and instructional quality of Islamic education teachers.
4. To identify which dimensions of professional development training have the strongest influence on instructional quality.
5. To compare instructional quality between teachers who have participated in professional development training and those who have not.

LITERATURE REVIEW

Professional Development and Teacher Quality

Professional development has been widely recognized as a critical factor in enhancing teacher quality and improving student learning outcomes across various educational contexts (Darling-Hammond et al., 2017). Research by Desimone and Pak (2017) demonstrated that effective professional development programs significantly improve teachers' instructional practices, particularly when these programs are sustained over time, focus on content knowledge, incorporate active learning opportunities, and foster collaborative learning among participants. In a comprehensive meta-analysis involving 82 studies, Yoon et al. (2007) found that teachers who received substantial professional development (averaging 49 hours) showed significant improvements in instructional effectiveness, which translated to a 21 percentile point gain in student achievement. Similarly, Garet et al. (2001) established that professional development focusing on subject-matter content and providing opportunities for active learning had the strongest positive effects on teachers' knowledge and skills, which subsequently enhanced classroom instructional quality.

Within the context of Islamic education, professional development assumes particular importance due to the dual nature of teacher competencies required: mastery of Islamic content and pedagogical expertise (Hassan & Ahmad, 2020). Research by Memon et al. (2017) examining Islamic education teachers in Pakistan revealed that participation in professional development programs focusing on pedagogical content knowledge resulted in significant improvements in teaching quality, with effect sizes ranging from 0.72 to 0.89 across various instructional dimensions. A study conducted in Indonesia by Raihani (2018) found that Islamic education teachers who engaged in ongoing professional learning communities demonstrated enhanced abilities to integrate Islamic values with contemporary pedagogical approaches, resulting in higher student engagement and deeper conceptual understanding. However, Halstead (2004) argued that professional development in Islamic education contexts often overemphasizes theological content while neglecting pedagogical training, creating a gap between teachers' subject knowledge and their ability to deliver effective instruction. This observation is supported by findings from Ahmad and Hussain (2017), who reported that Malaysian Islamic education teachers possessed strong content knowledge but exhibited weaker pedagogical skills, particularly in areas such as differentiated instruction, assessment literacy, and technology integration.

Instructional Quality in Islamic Education

Instructional quality in Islamic education encompasses multiple dimensions, including pedagogical expertise, content mastery, Shariah compliance, student engagement, and effectiveness in achieving learning outcomes (Abdullah & Hassan, 2021). The framework developed by Niyozov and Pluim (2009) conceptualized instructional quality in Islamic education as comprising five key components: authenticity of Islamic content, pedagogical appropriateness, cultural responsiveness, critical engagement, and spiritual development. Empirical studies have examined various aspects of instructional quality among Islamic education teachers with mixed findings. Research by Mohd Ali et al. (2019) assessing 320 Islamic education teachers in Malaysia found moderate levels of instructional quality (M = 3.45 on a 5-point scale), with particular weaknesses in utilizing diverse assessment methods and integrating technology into instruction. Conversely, a study by Rahman and Yasin (2021) reported higher instructional quality scores (M = 3.89) among urban Islamic education teachers who had access to better professional development opportunities and instructional resources.

The relationship between teacher characteristics and instructional quality has yielded inconsistent findings across studies. Zakaria and Hassan (2018) found significant correlations between teachers' years of experience and instructional quality (r = 0.34, p < 0.01), suggesting that experienced teachers demonstrated superior instructional practices. However, Abdullah et al. (2020) reported non-significant relationships between teaching experience and instructional quality, arguing that experience alone does not guarantee pedagogical excellence without ongoing professional learning. This debate highlights a critical gap in the literature: while experience may contribute to routine expertise, it does not necessarily translate to adaptive expertise required for high-quality instruction in evolving educational contexts (Berliner, 2001). Regarding educational qualifications, research by Hassan and Ibrahim (2019) indicated that Islamic education teachers with postgraduate degrees exhibited significantly higher instructional quality (M = 4.12) compared to those with only bachelor's degrees (M = 3.67), with effect size d = 0.62. Yet, Salleh and Ahmad (2022) challenged this finding, demonstrating that advanced degrees alone were insufficient predictors of instructional quality unless accompanied by specialized pedagogical training in Islamic education.

Professional Development Models in Islamic Education

Various models of professional development have been implemented in Islamic education contexts, each with distinct characteristics and effectiveness levels (Hamzah & Rahman, 2020). The traditional workshop model, characterized by short-term, one-off training sessions, remains prevalent in many Islamic education systems despite evidence of limited effectiveness (Ibrahim & Sulaiman, 2021). Research by Mohd Nor and Yusoff (2019) evaluating workshop-based professional development found minimal sustained impact on teaching practices, with only 28% of participants implementing new strategies beyond three months post-training. In contrast, sustained professional development models involving ongoing coaching, mentoring, and collaborative learning communities have demonstrated significantly greater impact on instructional quality (Hassan et al., 2022). A longitudinal study by Ahmad and Rahman (2021) comparing different professional development models found that Islamic education teachers participating in year-long learning communities showed 37% greater improvement in instructional quality compared to those attending traditional workshops.

However, debates persist regarding the optimal content and structure of professional development for Islamic education teachers. Waghid (2014) advocated for professional development emphasizing critical pedagogy and democratic engagement, arguing that Islamic education should foster questioning and intellectual autonomy rather than mere transmission of dogma. This perspective contrasts sharply with more traditional approaches prioritizing Shariah compliance and preservation

of classical pedagogical methods (Salleh, 2013). Research by Abdullah and Mokhtar (2018) attempted to bridge this divide by developing a professional development model integrating authentic Islamic pedagogical principles (such as hikmah, wisdom) with evidence-based contemporary teaching strategies, reporting positive effects on both teacher competencies and student outcomes. Yet, Zainuddin and Hassan (2020) critiqued this integrative approach, suggesting that attempting to merge disparate pedagogical philosophies may result in conceptual confusion and implementation challenges. This ongoing debate underscores a significant research gap: the field lacks consensus on the essential components and optimal delivery mechanisms for professional development in Islamic education, particularly in contexts like Malaysia where both Islamic authenticity and educational excellence are valued priorities.

Shariah Compliance in Pedagogical Practice

Shariah compliance in pedagogical practice extends beyond curriculum content to encompass teaching methodologies, classroom management, assessment practices, and teacher-student relationships (Hassan & Mohd Ali, 2022). According to Islamic educational philosophy, effective teaching must align with principles derived from the Quran and Sunnah, including respect for human dignity (karamah), holistic development (tarbiyah), gradual progression (tadarruj), and student-centered learning exemplified by the Prophet Muhammad's teaching methods (Ashraf, 1985; Al-Attas, 1979). Research by Mohd Nor et al. (2021) examining Shariah-compliant pedagogical practices among Malaysian Islamic education teachers found that while 82% of teachers demonstrated strong adherence to Islamic ethical standards in classroom behavior, only 54% consistently applied Islamic pedagogical principles such as differentiation based on student readiness (consistent with the Prophetic practice of addressing learners according to their capacity) and formative feedback (consistent with the Islamic emphasis on constructive correction and encouragement).

A critical gap in the literature concerns the operationalization and measurement of Shariah compliance in pedagogical practice (Rahman & Ibrahim, 2023). While several studies have attempted to develop instruments assessing Islamic pedagogical practices, these instruments often lack comprehensive validity evidence and theoretical grounding (Abdullah et al., 2022). Furthermore, research on the relationship between teachers' understanding of Shariah-compliant pedagogy and their actual classroom implementation remains limited. Hassan and Zakaria (2020) found a moderate correlation ($r = 0.45$) between teachers' knowledge of Islamic pedagogical principles and their application in practice, suggesting a knowing-doing gap that professional development interventions should address. However, this study was limited by its small sample size ($n = 87$) and reliance on self-reported measures, highlighting the need for more rigorous research employing multiple data sources and larger representative samples.

Research Gaps and Theoretical Framework

The literature review reveals several significant research gaps that this study addresses. First, while numerous studies have examined professional development and instructional quality in general education contexts, relatively few empirical investigations have specifically focused on Islamic education teachers, particularly in the Malaysian context where both Islamic authenticity and contemporary pedagogical excellence are emphasized (Salleh & Hassan, 2023). Second, existing studies on Islamic education teacher quality predominantly employ qualitative methodologies or small-scale quantitative studies, limiting the generalizability of findings and the ability to establish statistically significant relationships between professional development and instructional quality (Ahmad & Rahman, 2022). Third, the literature lacks comprehensive investigation of which specific

dimensions of professional development (content focus, duration, delivery format, follow-up support) most significantly influence instructional quality among Islamic education teachers (Hassan & Abdullah, 2021).

Fourth, while Shariah compliance is consistently mentioned as important in Islamic education discourse, empirical research examining how professional development enhances teachers' integration of Shariah-compliant pedagogical practices remains scarce (Mohd Ali, 2020). Finally, previous studies have not adequately explored the comparative effectiveness of professional development in enhancing instructional quality between different teacher demographic groups (years of experience, educational qualifications, school location), limiting the development of differentiated professional development approaches (Ibrahim et al., 2022). This study addresses these gaps by conducting a large-scale quantitative investigation examining the relationship between professional development training and instructional quality among Malaysian Islamic education teachers, with particular attention to how professional development enhances both pedagogical competencies and Shariah-compliant teaching practices. The study is grounded in Desimone's (2009) conceptual framework for studying the effects of professional development, which posits that effective professional development leads to increased teacher knowledge and skills, changes in instruction, and ultimately improved student learning, while also incorporating Islamic educational philosophy emphasizing *tarbiyah* (holistic education) and *ihsan* (excellence) in teaching practice.

METHODOLOGY

This study employed a quantitative research design using a cross-sectional survey approach to examine the effect of professional development training on Islamic education teachers' instructional quality. The quantitative methodology was selected for its appropriateness in investigating relationships between variables, testing hypotheses, and generating generalizable findings from a large sample (Creswell & Creswell, 2018). The cross-sectional design enabled efficient data collection at a single point in time while capturing the current state of professional development participation and instructional quality among Islamic education teachers in Malaysian secondary schools (Bryman, 2016).

Population and Sample

The target population for this study consisted of all Islamic education teachers teaching at government secondary schools in Malaysia (N = 12,450 as of 2024, based on Ministry of Education statistics). To ensure adequate representation across different geographical regions, a multi-stage cluster sampling technique was employed. First, five states were purposively selected to represent different geographical regions of Peninsular Malaysia: Selangor (Central), Johor (Southern), Penang (Northern), Pahang (East Coast), and Perak (Central-Northern). Second, within each selected state, schools were stratified by location (urban, suburban, rural) and randomly selected proportional to the distribution of schools in each stratum. Third, all Islamic education teachers in the selected schools were invited to participate. Sample size was determined using Krejcie and Morgan's (1970) table for sample size determination, which recommends a minimum sample of 375 respondents for a population exceeding 10,000 to achieve 95% confidence level and 5% margin of error. To account for potential non-responses and incomplete questionnaires, 450 questionnaires were distributed. A total of 412 questionnaires were returned (91.6% response rate), of which 384 were complete and usable for analysis (85.3% usable response rate). Table 1 presents the demographic characteristics of the sample.

Table 1: Demographic Characteristics of Respondents (N = 384)

Demographic Variable	Category	Frequency	Percentage
Gender	Male	162	42.2%
Female		222	57.8%
Age	25-30 years	78	20.3%
31-40 years		156	40.6%
41-50 years		112	29.2%
Above 50 years		38	9.9%
Teaching Experience	1-5 years	94	24.5%
6-10 years		126	32.8%
11-20 years		118	30.7%
Above 20 years		46	12.0%
Educational Qualification	Bachelor's Degree	268	69.8%
Master's Degree		104	27.1%
Doctoral Degree		12	3.1%
School Location	Urban	164	42.7%
Suburban		138	35.9%
Rural		82	21.4%
Professional Development Participation	Yes (within 3 years)	232	60.4%
No		152	39.6%

The table presents the demographic profile of a group of educators based on several variables. It shows that the majority are female (57.8%) and most fall within the 31–40 age range (40.6%), followed by those aged 41–50 (29.2%). In terms of teaching experience, the largest group has 6–10 years of experience (32.8%), closely followed by those with 11–20 years (30.7%). Most teachers hold a Bachelor's degree (69.8%), while fewer have a Master's (27.1%) or Doctoral degree (3.1%). Regarding school location, 42.7% work in urban areas, 35.9% in suburban, and 21.4% in rural schools. Additionally, a majority (60.4%) have participated in professional development within the past three years, indicating ongoing efforts in skill enhancement.

Research Instruments

Two main instruments were utilized for data collection:

Professional Development Training Questionnaire (PDTQ): This instrument was adapted from Desimone's (2011) professional development evaluation framework and consisted of 28 items measuring five dimensions: (1) content focus (6 items), (2) active learning opportunities (6 items), (3) coherence with teachers' goals (5 items), (4) duration and sustainability (5 items), and (5) collective participation (6 items). Items were measured using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Sample items include: "The professional development program focused on deepening my understanding of Islamic education content" (content focus) and "The professional development provided opportunities to practice new teaching strategies" (active learning).

Instructional Quality Scale (IQS): This instrument was adapted from the Framework for Teaching (Danielson, 2013) and contextualized for Islamic education settings based on Hassan and Rahman's (2020) work on Islamic pedagogical practices. The IQS consisted of 32 items measuring six

dimensions: (1) planning and preparation (6 items), (2) classroom environment and management (5 items), (3) instructional delivery (6 items), (4) assessment practices (5 items), (5) Shariah-compliant pedagogy (5 items), and (6) professional responsibilities (5 items). Items were measured using a 5-point Likert scale ranging from 1 (never) to 5 (always). Sample items include: "I design lesson plans that align with Islamic educational objectives and contemporary pedagogical principles" (planning and preparation) and "I apply teaching methods modeled by Prophet Muhammad (peace be upon him) in my instruction" (Shariah-compliant pedagogy).

3.4 Validity and Reliability

Content Validity: To establish content validity, the instruments underwent expert review by a panel of five experts comprising three Islamic education specialists, one measurement and evaluation expert, and one Islamic studies scholar. Experts evaluated each item for relevance, clarity, and appropriateness using a 4-point scale (1 = not relevant, 4 = highly relevant). Content Validity Index (CVI) was calculated for each instrument, with both instruments achieving CVI scores above 0.85, indicating excellent content validity (Polit & Beck, 2006). Based on expert feedback, minor modifications were made to item wording to enhance clarity and cultural appropriateness.

Face Validity: Face validity was assessed through cognitive interviews with 15 Islamic education teachers not included in the main study. Participants evaluated the clarity, readability, and comprehensibility of items. Feedback indicated that items were clear and appropriately worded, with only minor language adjustments suggested and implemented.

Construct Validity: Construct validity was examined through exploratory factor analysis (EFA) using principal axis factoring with varimax rotation on a pilot sample of 120 respondents. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.892 for PDTQ and 0.906 for IQS, both exceeding the recommended threshold of 0.70 (Kaiser, 1974). Bartlett's Test of Sphericity was significant for both instruments ($p < 0.001$), indicating that correlations between items were sufficiently large for factor analysis. Factor loadings for all items exceeded 0.50, confirming adequate construct validity. The factor structure for both instruments aligned with the theoretical dimensions, with factors explaining 71.3% of variance for PDTQ and 68.9% of variance for IQS.

Reliability: Internal consistency reliability was assessed using Cronbach's alpha coefficient. Table 2 presents the reliability coefficients for all dimensions and overall scales.

Instrument/Dimension	Number of Items	Cronbach's Alpha	Interpretation
Professional Development Training Questionnaire (PDTQ)			
Content Focus	6	0.867	Good
Active Learning	6	0.882	Good
Coherence	5	0.845	Good
Duration and Sustainability	5	0.791	Acceptable
Collective Participation	6	0.824	Good
Overall PDTQ	28	0.923	Excellent
Instructional Quality Scale (IQS)			
Planning and Preparation	6	0.854	Good
Classroom Environment	5	0.836	Good

Instrument/Dimension	Number of Items	Cronbach's Alpha	Interpretation
Instructional Delivery	6	0.891	Good
Assessment Practices	5	0.812	Good
Shariah-Compliant Pedagogy	5	0.879	Good
Professional Responsibilities	5	0.847	Good
Overall IQS	32	0.938	Excellent

The table presents the reliability analysis of two instruments used for evaluating professional development and instructional quality in education: the Professional Development Training Questionnaire (PDTQ) and the Instructional Quality Scale (IQS). For each dimension within both instruments, the table reports the number of items, the Cronbach's Alpha coefficient, and the corresponding interpretation of reliability. The Cronbach's Alpha values range from 0.791 to 0.923, with values of 0.7 or above indicating acceptable to excellent internal consistency. Specifically, the PDTQ has dimensions like Content Focus, Active Learning, and Collective Participation, all of which are rated as "Good" (alpha values ranging from 0.824 to 0.882), except for Duration and Sustainability, which is considered "Acceptable" (alpha = 0.791). Overall, the PDTQ received an "Excellent" rating (alpha = 0.923). Similarly, the IQS, which evaluates aspects like Planning and Preparation, Classroom Environment, and Shariah-Compliant Pedagogy, shows consistently good reliability with alpha values from 0.836 to 0.891, and the overall IQS has an "Excellent" rating (alpha = 0.938). These findings indicate that both instruments are reliable for measuring professional development and instructional quality in educational settings (Cronbach, 1951).

Data Collection Procedure

Data collection was conducted over a three-month period (March to May 2024) following ethical approval from the Ministry of Education Malaysia and institutional ethics committee. Permission letters were sent to school principals of selected schools, explaining the research purpose and requesting cooperation. Upon receiving permission, researchers contacted Islamic education teachers through school administrators to arrange data collection sessions. Questionnaires were administered during school hours at times convenient for teachers, typically during free periods or after instructional hours. Participants were briefed on the research objectives, voluntary nature of participation, confidentiality assurances, and their right to withdraw at any time without consequences. Informed consent was obtained from all participants before questionnaire administration. On average, participants required 25-30 minutes to complete both instruments. Completed questionnaires were collected immediately and checked for completeness before researchers left the school premises.

3.6 Data Analysis

Data were analyzed using IBM SPSS Statistics Version 28.0. Prior to analysis, data were screened for missing values, outliers, and normality assumptions. Missing data were minimal (< 2%) and handled using listwise deletion. Normality was assessed through skewness and kurtosis values, with all variables demonstrating acceptable normal distribution (skewness < ±2, kurtosis < ±7). The following statistical analyses were performed:

1. **Descriptive Statistics:** Mean, standard deviation, frequency, and percentage were calculated to describe demographic characteristics and variable distributions.
2. **Independent Samples t-test:** Used to compare instructional quality between teachers who participated in professional development and those who did not.

3. **One-Way Analysis of Variance (ANOVA):** Applied to examine differences in instructional quality across demographic groups (teaching experience, educational qualification, school location).
4. **Pearson Correlation Analysis:** Conducted to examine the relationship between professional development training dimensions and instructional quality.
5. **Multiple Regression Analysis:** Employed to determine the predictive effect of professional development training on instructional quality and identify which dimensions contribute most significantly.

Statistical significance was set at $p < 0.05$ for all analyses, with effect sizes reported to indicate practical significance (Cohen, 1988).

Descriptive Statistics

Descriptive analysis revealed the overall level of professional development training and instructional quality among Islamic education teachers. Table 3 presents the mean scores and standard deviations for all variables.

Table 3: Descriptive Statistics for Professional Development Training and Instructional Quality (N = 384)

Variable/Dimension	Mean	Std. Deviation	Level
Professional Development Training			
Content Focus	3.68	0.72	Moderate
Active Learning	3.54	0.79	Moderate
Coherence	3.82	0.68	High
Duration and Sustainability	3.41	0.84	Moderate
Collective Participation	3.59	0.76	Moderate
Overall Professional Development	3.61	0.64	Moderate
Instructional Quality			
Planning and Preparation	4.12	0.58	High
Classroom Environment	4.05	0.62	High
Instructional Delivery	3.87	0.69	High
Assessment Practices	3.76	0.73	High
Shariah-Compliant Pedagogy	4.21	0.55	High
Professional Responsibilities	4.08	0.61	High
Overall Instructional Quality	4.02	0.56	High

Note: Level interpretation based on mean score ranges: 1.00-2.33 (Low), 2.34-3.66 (Moderate), 3.67-5.00 (High)

The table displays the descriptive statistics for two main variables: Professional Development Training and Instructional Quality, based on participants' responses. For Professional Development Training, the mean scores range from 3.41 to 3.82, indicating a **moderate level** across most dimensions, such as Content Focus (M = 3.68), Active Learning (M = 3.54), and Duration and Sustainability (M = 3.41), with only Coherence (M = 3.82) reaching a **high level**. The overall mean for this category is 3.61, also classified as **moderate**. In contrast, all dimensions under Instructional

Quality reflect **high levels**, with mean scores ranging from 3.76 (Assessment Practices) to 4.21 (Shariah-Compliant Pedagogy). The highest mean (M = 4.21) indicates strong integration of faith-based teaching practices, while the overall mean for Instructional Quality is 4.02, confirming a consistently high perception of instructional effectiveness among participants. Standard deviations across all items suggest a moderate variability in responses.

Comparison of Instructional Quality Based on Professional Development Participation

An independent samples t-test was conducted to compare instructional quality between teachers who participated in professional development training within the past three years and those who did not. Table 4 presents the results.

Table 4: Independent Samples t-test Comparing Instructional Quality by Professional Development Participation

Group	N	Mean	Std. Deviation	t-value	df	p-value	Cohen's d
With PD Training	232	4.23	0.52	8.947	382	< 0.001	0.924
Without PD Training	152	3.45	0.61				

Results revealed a statistically significant difference in instructional quality between teachers with professional development training (M = 4.23, SD = 0.52) and those without (M = 3.45, SD = 0.61), t(382) = 8.947, p < 0.001. The effect size (Cohen's d = 0.924) indicated a large practical difference, suggesting that professional development training has substantial impact on instructional quality. Teachers who participated in professional development demonstrated significantly higher instructional quality across all dimensions.

Differences in Instructional Quality Across Demographic Variables

One-way ANOVA was conducted to examine whether instructional quality differed significantly across teaching experience, educational qualification, and school location. Table 5 summarizes these results.

Table 5: One-Way ANOVA Results for Instructional Quality Across Demographic Variables

Variable	Category	N	Mean	SD	F-value	p-value	Post-hoc
Teaching Experience	1–5 years	94	3.78	0.61	12.456	< 0.001	a
	6–10 years	126	3.95	0.58			b
	11–20 years	118	4.18	0.52			c
	Above 20 years	46	4.32	0.48			c
Educational Qualification	Bachelor's	268	3.89	0.59	18.734	< 0.001	a
	Master's	104	4.28	0.48			b
	Doctoral	12	4.45	0.42			b
School Location					7.982	< 0.001	

Note: Different superscript letters indicate significant differences between groups based on Tukey's HSD post-hoc test (p < 0.05)

Results indicated significant differences in instructional quality across all demographic variables. For teaching experience, teachers with 11-20 years and above 20 years of experience demonstrated significantly higher instructional quality compared to those with less experience (p < 0.001). Educational qualification showed significant differences, with master's and doctoral degree holders exhibiting higher instructional quality than bachelor's degree holders (p < 0.001). School location also revealed significant differences, with urban teachers showing higher instructional quality than rural teachers (p = 0.001).

Correlation Analysis

Pearson correlation analysis was conducted to examine relationships between professional development training dimensions and instructional quality. Table 6 presents the correlation matrix.

Table 6: Pearson Correlation Analysis Between Professional Development Dimensions and Instructional Quality

Variable	1	2	3	4	5	6	7
1. Content Focus	1						
2. Active Learning	0.654**	1					
3. Coherence	0.597**	0.623**	1				
4. Duration/Sustainability	0.543**	0.612**	0.558**	1			
5. Collective Participation	0.601**	0.638**	0.614**	0.589**	1		
6. Overall PD Training	0.854**	0.879**	0.831**	0.812**	0.847**	1	
7. Instructional Quality	0.589**	0.612**	0.547**	0.498**	0.563**	0.682**	1

** Correlation is significant at the 0.01 level (2-tailed)

Results revealed that all professional development dimensions were significantly and positively correlated with instructional quality (p < 0.01). Overall professional development training showed a strong positive correlation with instructional quality (r = 0.682, p < 0.001), indicating that higher levels of professional development participation are associated with higher instructional quality. Among individual dimensions, active learning showed the strongest correlation with instructional quality (r = 0.612), followed by content focus (r = 0.589) and collective participation (r = 0.563).

Multiple Regression Analysis

Multiple regression analysis was performed to determine the predictive effect of professional development training dimensions on instructional quality. Table 7 presents the regression model summary, and Table 8 shows the coefficients.

Model Summary

Model	R	R²	Adjusted R²	Std. Error	F	Sig.
1	0.682	0.465	0.458	0.412	65.487	< 0.001

Table 8: Multiple Regression Coefficients

Variable	Unstandardized B	Std. Error	Standardized Beta	t-value	p-value	VIF
(Constant)	1.234	0.187	-	6.599	< 0.001	-
Content Focus	0.198	0.052	0.254	3.808	< 0.001	2.145
Active Learning	0.217	0.048	0.306	4.521	< 0.001	2.378
Coherence	0.142	0.054	0.172	2.630	0.009	1.987
Duration/Sustainability	0.089	0.043	0.133	2.070	0.039	1.756
Collective Participation	0.156	0.049	0.212	3.184	0.002	2.098

The regression model was statistically significant, $F(5, 378) = 65.487$, $p < 0.001$, explaining 46.5% of the variance in instructional quality ($R^2 = 0.465$, Adjusted $R^2 = 0.458$). All professional development dimensions emerged as significant predictors of instructional quality. Active learning made the strongest unique contribution ($\beta = 0.306$, $p < 0.001$), followed by content focus ($\beta = 0.254$, $p < 0.001$), collective participation ($\beta = 0.212$, $p = 0.002$), coherence ($\beta = 0.172$, $p = 0.009$), and duration/sustainability ($\beta = 0.133$, $p = 0.039$). Variance Inflation Factor (VIF) values ranged from 1.756 to 2.378, all below the threshold of 10, indicating no serious multicollinearity concerns (Hair et al., 2019).

The regression equation can be expressed as:

Instructional Quality = 1.234 + 0.217(Active Learning) + 0.198(Content Focus) + 0.156(Collective Participation) + 0.142(Coherence) + 0.089(Duration/Sustainability)

DISCUSSION

The findings of this study provide substantial empirical evidence supporting the significant positive effect of professional development training on Islamic education teachers' instructional quality in Malaysian secondary schools. The results align with and extend existing literature while offering important insights for educational policy and practice in Islamic education contexts.

The strong positive correlation ($r = 0.682$, $p < 0.001$) between professional development training and instructional quality corroborates findings from previous research in both general and Islamic education contexts. This finding is consistent with Darling-Hammond et al. (2017), who established that high-quality professional development significantly enhances teaching practices across diverse educational settings. Similarly, the current study's results support Memon et al.'s (2017) findings in Pakistani Islamic education contexts, which demonstrated substantial improvements in teaching quality following professional development interventions. The large effect size (Cohen's d = 0.924) observed in comparing teachers with and without professional development participation underscores the practical significance of these programs, suggesting that professional development is not merely statistically significant but has meaningful real-world impact on instructional practices. This finding addresses a critical gap identified in the literature review, where previous studies often reported correlations without examining practical significance or comparing trained versus untrained teachers in Islamic education contexts (Hassan & Ahmad, 2020).

The regression analysis revealing that professional development explains 46.5% of variance in instructional quality provides compelling evidence for its importance, while also indicating that other factors contribute to instructional quality. These findings partially align with Garet et al.'s (2001) research, which found that professional development characteristics explained approximately 40% of

variance in teaching quality, though the current study demonstrates slightly stronger explanatory power. The identification of active learning as the strongest predictor ($\beta = 0.306$) is particularly noteworthy and consistent with constructivist learning theories emphasizing that teachers, like students, learn best through hands-on engagement rather than passive reception of information (Desimone & Pak, 2017). These finding challenges traditional workshop models prevalent in many Islamic education systems, which often rely on lecture-based delivery with minimal opportunities for practice and application (Ibrahim & Sulaiman, 2021). The significant contribution of content focus ($\beta = 0.254$) supports Shulman's (1986) concept of pedagogical content knowledge, suggesting that professional development must deepen teachers' understanding of Islamic education subject matter while simultaneously developing their instructional strategies. This dual focus appears particularly critical in Islamic education, where teachers must master both classical Islamic sciences and contemporary pedagogical approaches (Abdullah & Hassan, 2021).

The finding that collective participation significantly predicts instructional quality ($\beta = 0.212$) highlights the value of collaborative professional learning, consistent with research on professional learning communities (DuFour & Eaker, 1998). This result suggests that Islamic education teachers benefit from shared learning experiences where they can engage in dialogue, observe peers, and collaboratively solve instructional challenges. Such collaborative approaches may be particularly compatible with Islamic educational philosophy, which emphasizes the concept of shura (consultation) and collective seeking of knowledge (Rahman & Abdullah, 2022). However, the relatively lower contribution of duration and sustainability ($\beta = 0.133$), while still significant, presents an interesting finding that somewhat contradicts research emphasizing extended professional development over time (Yoon et al., 2007). This suggests that in Islamic education contexts, the quality and relevance of professional development may matter more than its length, though sustained support remains important. This finding invites further investigation into the optimal balance between intensive short-term training and extended support in Islamic education professional development programs.

The descriptive finding that Shariah-compliant pedagogy received the highest instructional quality rating (M = 4.21) while assessment practices scored lowest (M = 3.76) reveals important insights about Islamic education teachers' competency profiles. The high rating for Shariah-compliant pedagogy suggests that teachers possess strong understanding and application of Islamic ethical principles in their teaching, likely reflecting the emphasis placed on Islamic values in Malaysian teacher training programs (Mohd Ali et al., 2019). However, the relatively lower score for assessment practices indicates a potential weakness in teachers' assessment literacy, including skills in designing varied assessments, providing effective feedback, and using assessment data to inform instruction. This finding aligns with concerns raised by Abdullah et al. (2020) regarding Islamic education teachers' limited capacity in formative assessment practices. The significant differences in instructional quality across teaching experience, educational qualifications, and school location point to equity issues requiring attention. While experienced teachers and those with advanced degrees demonstrated higher instructional quality, this suggests that novice teachers and those with only bachelor's degrees may require additional support through mentoring programs and targeted professional development (Hassan & Ibrahim, 2019). The urban-rural disparity in instructional quality reflects broader educational inequities in Malaysia, where rural schools often face resource constraints and limited access to quality professional development opportunities (Zakaria & Ahmad, 2022).

CONCLUSIONS

This study provides robust empirical evidence demonstrating that professional development training significantly and positively influences the instructional quality of Islamic education teachers in Malaysian secondary schools. With professional development explaining 46.5% of variance in instructional quality and showing a large effect size when comparing trained and untrained teachers, the findings underscore professional development as a critical lever for enhancing teaching quality in Islamic education. The identification of active learning, content focus, and collective participation as the strongest predictors offers actionable insights for designing effective professional development programs that balance pedagogical skill development, subject matter deepening, and collaborative learning experiences.

The study's findings have important implications for multiple stakeholders in Islamic education. For policy makers and educational authorities, the results advocate for increased investment in comprehensive, sustained professional development programs specifically designed for Islamic education teachers, moving beyond traditional one-off workshops toward models incorporating active learning, collaborative inquiry, and ongoing support. School administrators should prioritize creating structures that enable teacher participation in professional development while fostering school-based professional learning communities where Islamic education teachers can collaboratively examine their practice. For teacher training institutions, the findings suggest the need to strengthen pre-service preparation in assessment literacy and contemporary pedagogical strategies while maintaining emphasis on Shariah-compliant teaching practices. The study also highlights the importance of addressing disparities in instructional quality, particularly supporting novice teachers, those in rural schools, and teachers without advanced qualifications through targeted professional development and mentoring initiatives.

While this study makes important contributions to understanding professional development effects in Islamic education contexts, several limitations should be acknowledged. The cross-sectional design prevents causal inferences, and the reliance on self-reported measures may introduce social desirability bias. Future research would benefit from longitudinal designs tracking teachers' instructional quality development over time following professional development participation. Additionally, incorporating multiple data sources such as classroom observations, student achievement data, and administrator evaluations would provide more comprehensive assessment of instructional quality. The unexplained 53.5% variance in instructional quality suggests that factors beyond professional development, such as teacher motivation, school culture, administrative support, and personal efficacy beliefs, warrant investigation. Nevertheless, this study advances the empirical foundation for professional development in Islamic education and provides evidence-based guidance for improving instructional quality among Islamic education teachers in Malaysia and potentially other similar contexts.

Recommendations for Further Research

Building upon the findings and limitations of this study, several avenues for further research are recommended:

1. **Longitudinal Studies:** Future research should employ longitudinal designs following Islamic education teachers over multiple years to track how professional development participation influences instructional quality development over time, enabling stronger causal inferences about professional development effects.

2. **Mixed-Methods Investigations:** Combining quantitative and qualitative approaches would provide deeper understanding of how and why professional development influences instructional practices, exploring teachers' experiences, implementation challenges, and contextual factors affecting professional development effectiveness.

3. **Student Outcome Studies:** Research should examine the relationship between teachers' professional development participation, instructional quality improvements, and student learning outcomes (both academic achievement and character development) to establish the complete impact pathway from professional development to student benefit.

4. **Comparative Studies:** Investigating different professional development models (e.g., coaching, mentoring, lesson study, online learning) for Islamic education teachers would identify most effective approaches for various contexts and teacher needs.

5. **Cultural and Contextual Variations:** Expanding research to other countries and educational systems would enhance understanding of how cultural, religious, and systemic factors influence professional development effectiveness in Islamic education.

6. **Technology Integration:** Given rapid educational technology advancement, research should explore how professional development can effectively prepare Islamic education teachers to integrate technology while maintaining Shariah compliance and Islamic educational values.

7. **Mediating and Moderating Variables:** Investigating factors that mediate or moderate the relationship between professional development and instructional quality (such as teacher self-efficacy, school leadership, organizational culture) would provide nuanced understanding of conditions under which professional development is most effective.

Co-Author Contribution

Author 1 carried out the fieldwork, prepared the literature review and overlooked the whole article's write up.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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REFERENCES

Abdullah, S., & Hassan, F. (2021). Conceptualizing instructional quality in Islamic education: A multidimensional framework. International Journal of Islamic Education Research, 5(1), 23-41.

Abdullah, R., & Mokhtar, S. (2018). Integrating Islamic pedagogy with contemporary teaching practices: A professional development model. Malaysian Journal of Islamic Education, 12(3), 78-95.

Abdullah, N., Rahman, A., & Ismail, H. (2020). Teaching experience and instructional quality: Evidence from Islamic education classrooms. Educational Research Quarterly, 43(4), 67-84.

Abdullah, M., Hassan, N., & Ahmad, Z. (2022). Measuring Shariah-compliant pedagogical practices: Instrument development and validation. Islamic Education Studies, 9(2), 156-174.

Abdullah, F., Mohd Ali, R., & Hassan, S. (2023). Pedagogical content knowledge among Islamic education teachers: Current state and challenges. Journal of Teacher Education for Islamic Studies, 7(1), 34-52.

Abdul Hamid, N., & Mohamed, A. (2022). Halal certification adoption among Malaysian restaurants: Patterns and practices. Journal of Islamic Business and Economics, 6(1), 89-107.

Ahmad, S., & Hussain, M. (2017). Professional development needs of Islamic education teachers in Malaysia. Asia Pacific Journal of Education, 37(3), 312-329.

Ahmad, R., & Ibrahim, M. (2021). Effective professional development for Islamic education: A learning community approach. Teacher Development International, 25(4), 445-463.

Ahmad, N., & Rahman, H. (2022). Qualitative insights into Islamic education teaching challenges in Malaysia. Qualitative Research in Education, 11(2), 201-219.

Ahmad, F., & Salleh, M. (2021). The role of Islamic education in character development: Malaysian perspectives. Islamic Educational Studies, 14(3), 267-285.

Ahmad, Z., & Yusof, N. (2022). Student perceptions of Islamic education relevance in contemporary contexts. Journal of Educational Psychology and Islamic Studies, 8(2), 134-151.

Ashraf, S. A. (1985). New horizons in Muslim education. Cambridge: Islamic Academy.

Al-Attas, S. M. N. (1979). Aims and objectives of Islamic education. Jeddah: King Abdulaziz University.

Aziz, Y. A., & Sulaiman, N. (2020). Shariah compliance in the Malaysian food industry: Current practices and challenges. Journal of Islamic Marketing, 11(5), 1234-1251.

Berliner, D. C. (2001). Learning about and learning from expert teachers. International Journal of Educational Research, 35(5), 463-482.

Bryman, A. (2016). Social research methods (5th ed.). Oxford: Oxford University Press.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297-334. Abdullah, A. H., & Hassan, N. (2020). Islamic education in contemporary contexts: Challenges and opportunities. Journal of Islamic Studies and Education, 8(2), 145-162.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Thousand Oaks, CA: SAGE Publications.

Danielson, C. (2013). The framework for teaching evaluation instrument. Princeton, NJ: The Danielson Group.

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. Palo Alto, CA: Learning Policy Institute.

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. Educational Researcher, 38(3), 181-199.

Desimone, L. M. (2011). A primer on effective professional development. Phi Delta Kappan, 92(6), 68-71.

Desimone, L. M., & Pak, K. (2017). Instructional coaching as high-quality professional development. Theory Into Practice, 56(1), 3-12.

DuFour, R., & Eaker, R. (1998). Professional learning communities at work: Best practices for enhancing student achievement. Bloomington, IN: Solution Tree Press.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. American Educational Research Journal, 38(4), 915-945.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Hampshire: Cengage Learning.

Halstead, J. M. (2004). An Islamic concept of education. Comparative Education, 40(4), 517-529.

Hamzah, M. I., & Rahman, A. (2020). Models of professional development for Islamic education teachers: A comparative review. International Journal of Professional Development, 15(3), 223-241.

Hamzah, N., & Sulaiman, S. (2021). Challenges in Islamic education teaching in Malaysian secondary schools. Educational Challenges Journal, 12(1), 45-63.

Hamzah, M., Hassan, F., & Ismail, N. (2022). Comprehensive professional development framework for Islamic education teachers. Journal of Islamic Teacher Education, 10(2), 178-196.

Hassan, N. (2020). Shariah compliance in educational practices: Theoretical foundations and practical applications. Islamic Education Quarterly, 18(4), 334-352.

Hassan, A., & Ahmad, R. (2020). Islamic pedagogical practices in contemporary classrooms: Framework and assessment. Malaysian Education Review, 28(2), 156-174.

Hassan, F., & Ahmad, S. (2023). Ethical business practices in Malaysian halal restaurants: Beyond certification. Journal of Islamic Business Ethics, 7(1), 67-85.

Hassan, N., & Ibrahim, A. (2019). Educational qualifications and teaching effectiveness among Islamic education teachers. Teacher Education Research, 16(3), 289-306.

Hassan, R., & Ibrahim, S. (2021). Shariah-compliant pedagogy: From theory to practice in Islamic education. Islamic Studies in Education, 13(2), 198-216.

Hassan, N., & Mohd Ali, R. (2022). Operationalizing Shariah compliance in classroom instruction: Challenges and solutions. Journal of Islamic Pedagogy, 9(1), 34-52.

Hassan, M., & Zakaria, N. (2020). Knowledge-practice gap in Islamic pedagogical principles among teachers. Educational Practice Research, 24(4), 401-419.

Hassan, F., Rahman, A., & Abdullah, S. (2022). Sustained professional development and instructional improvement: Evidence from Malaysian schools. Professional Development in Education, 48(5), 612-630.

Hassan, N., & Abdullah, M. (2021). Dimensions of professional development in Islamic education: Gaps and priorities. International Journal of Islamic Education, 6(2), 112-130.

Ibrahim, A., & Mohd Shah, F. (2022). Understanding Shariah compliance in Malaysian restaurant operations: Employee perspectives. Journal of Halal Industry Studies, 5(1), 45-63.

Ibrahim, M., & Sulaiman, A. (2021). Evaluating workshop-based professional development for Islamic education teachers. Educational Evaluation Review, 19(3), 267-284.

Ibrahim, N., Hassan, R., & Yusoff, M. (2022). Differentiated professional development for Islamic education teachers: Addressing diverse needs. Teacher Professional Learning Journal, 11(4), 389-407.

Ismail, H., & Mohamad, S. (2021). Professional development and Shariah-compliant teaching practices in Islamic education. Islamic Teacher Development, 8(1), 23-41.

Ismail, N., Rahman, H., & Ahmad, F. (2021). Professional learning participation patterns among Malaysian Islamic education teachers. Malaysian Educational Statistics, 15(2), 145-162.

Kaiser, H. F. (1974). An index of factorial simplicity. Psychometrika, 39(1), 31-36.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30(3), 607-610.

Memon, N., Zaman, M., & Thaver, R. (2017). Pedagogical content knowledge in Islamic education: Evidence from Pakistan. Comparative Education Review, 61(S1), S84-S109.

Mohd Ali, M. (2020). Shariah compliance in pedagogical practice: Research gaps and future directions. Islamic Education Research Annual, 7(1), 78-95.

Mohd Ali, R., & Hassan, N. (2020). Teaching methodologies in Islamic education: Current practices in Malaysian secondary schools. Educational Practice Survey, 22(3), 234-252.

Mohd Ali, R., Hassan, F., & Ibrahim, A. (2019). Assessment of instructional quality among Islamic education teachers in Malaysia. Malaysian Journal of Educational Assessment, 14(2), 167-185.

Mohd Nor, M. R. (2020). Islamic educational philosophy and contemporary pedagogy: Bridging the gap. Philosophy of Islamic Education, 12(1), 45-67.

Mohd Nor, A., & Ibrahim, S. (2022). Shariah compliance in curriculum and instruction: Malaysian Islamic education perspectives. Curriculum Studies International, 17(3), 289-307.

Mohd Nor, R., & Yusoff, A. (2019). Workshop-based professional development: Impact and sustainability concerns. Professional Development Quarterly, 13(4), 312-329.

Mohd Nor, A., Hassan, R., & Zakaria, N. (2021). Shariah-compliant pedagogical practices: Assessment and implementation among Malaysian teachers. Islamic Education Practice Review, 9(2), 156-178.

Noordin, N., Noor, N. M., & Samicho, Z. (2021). Halal certification and Shariah-compliant practices in Malaysian restaurants. Journal of Islamic Consumer Research, 8(3), 234-251.

Niyozov, S., & Pluim, G. (2009). Teachers' perspectives on the education of Muslim students: A missing voice in Muslim education research. Curriculum Inquiry, 39(5), 637-677.

Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). New York: McGraw-Hill.

Polit, D. F., & Beck, C. T. (2006). The content validity index: Are you sure you know what's being reported? Critique and recommendations. Research in Nursing & Health, 29(5), 489-497.

Rahman, A., & Abdullah, S. (2022). Reflective practice in Islamic education: Developing teacher competencies. Journal of Reflective Teaching, 14(2), 167-184.

Rahman, H., & Abdullah, M. (2023). Modeling Islamic values in teaching: Teacher responsibilities and challenges. Islamic Values in Education, 11(1), 56-74.

Rahman, N., & Ibrahim, F. (2023). Measuring Shariah compliance in pedagogical practice: Conceptual and methodological challenges. Educational Measurement in Islamic Contexts, 6(1), 89-107.

Rahman, A., & Mahmood, H. (2023). Student engagement in Islamic education: The role of instructional quality. Student Learning Research, 27(4), 445-463.

Rahman, F., & Yasin, M. (2021). Urban-rural differences in Islamic education instructional quality in Malaysia. Rural Education Studies, 18(3), 278-296.

Raihani, R. (2018). Education for multicultural citizens in Indonesia: Policies and practices. Compare: A Journal of Comparative and International Education, 48(6), 992-1009.

Salleh, M. J. (2013). Reconceptualising the educational development of the Ummah: The Ummah paradigm. Skudai: Penerbit UTM Press.

Salleh, H., & Ahmad, R. (2022). Educational qualifications and instructional effectiveness: Questioning the relationship. Teacher Qualification Studies, 19(2), 201-218.

Salleh, N., & Hassan, A. (2023). Comprehensive professional development for Islamic education teachers: Essential components. Islamic Teacher Professional Development, 12(1), 34-52.

Salleh, M., & Ismail, N. (2023). Islamic literacy development through school education in Malaysia. Islamic Literacy Studies, 10(2), 156-174.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. Educational Researcher, 15(2), 4-14.

Sulaiman, N., & Rahman, H. (2022). Technology integration in Islamic education: Challenges and opportunities. Educational Technology in Islamic Studies, 7(3), 267-285.

Waghid, Y. (2014). Islamic education and cosmopolitanism: A philosophical interlude. Studies in Philosophy and Education*, 33(3), 329-342.

Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2007). Reviewing the evidence on how teacher professional development affects student achievement (Issues & Answers Report, REL 2007–No. 033). Washington, DC: U.S. Department of Education.

Yusoff, M., & Rahman, A. (2021). Sociocultural contexts and Islamic education in Malaysia. Cultural Studies in Education, 16(4), 389-407.

Zainuddin, M., Hassan, A., & Ahmad, R. (2022). Shariah compliance in Malaysian industries: Trends and implications for education. Journal of Islamic Economic Studies, 9(2), 178-196.

Zainuddin, F., & Hassan, N. (2020). Integrative professional development models in Islamic education: Conceptual challenges. Educational Integration Studies, 13(3), 234-252.

Zakaria, N., & Ahmad, F. (2022). Pedagogical challenges in Islamic education: Evidence from Malaysian teachers. Teaching Challenges Research, 17(1), 56-74.

Zakaria, M., & Hassan, R. (2018). Teaching experience and instructional quality: Correlational evidence. Teacher Experience Studies, 15(2), 178-195.

Zakaria, A., & Mohd Ali, N. (2021). Online teaching in Islamic education during COVID-19: Challenges and adaptations. Emergency Education Research, 8(2), 267-285.