

VOCATIONAL EDUCATION AND SKILLS TRAINING IN TRADITIONAL ISLAMIC SCHOOLS IN SOUTHEAST ASIA (1975–2025)

Alim Harun Pamungkas¹, Fatah Nasikh Aryawan², Putra Ramadani³, Rizki Putri Ramadhani⁴,
Handriva Fauzi⁵, Sherlyane Hendri⁶, Anggi Firmanjaya Saputra⁷

¹⁶⁷Universitas Negeri Padang; Indonesia

²Dinas Pendidikan Provinsi Jawa Timur; Indonesia

³Sekolah Tinggi Ilmu Bahasa Arab dan Dakwah Masjid Agung Sunan Ampel Surabaya; Indonesia

⁴Politeknik Negeri Malang; Indonesia

⁵Universitas Negeri Yogyakarta; Indonesia

Correspondence E-mail; alimharun@fip.unp.ac.id

Submitted: 26/12/2025

Revised: 06/01/2026

Accepted: 12/02/2026

Published: 13/02/2026

Abstract

Traditional Islamic educational institutions have historically shaped religious and socio-cultural life in Southeast Asia, yet their contribution to vocational education and skills training has not been systematically synthesized. This study examines how vocational education has been conceptualized and implemented in traditional Islamic schools (pesantren, pondok, and madrasah) across Indonesia, Malaysia, Thailand, Brunei Darussalam, and Singapore from 1975 to 2025. Using a Systematic Literature Review (SLR) guided by PRISMA 2020, 2,099 records were identified in Scopus, of which 32 peer-reviewed studies met the inclusion criteria for analysis. The findings indicate three major patterns. First, vocational education in Islamic schools has evolved from informal life-skills transmission into more structured models, including entrepreneurship training, agricultural programs, TVET-aligned curricula, and hybrid digital initiatives. Second, significant cross-national variation exists: Indonesia (n = 18) and Malaysia (n = 7) show stronger institutional integration with national TVET systems, while Thailand (n = 3), Brunei (n = 2), and Singapore (n = 2) emphasize community-based or hybrid skill models. Third, vocational education is framed not only as employability enhancement but also as religious obligation and identity formation. Theoretically, the review demonstrates that vocational education in Islamic institutions functions simultaneously as an economic strategy, a capability-expanding process, and an identity-forming practice. These findings challenge state-centered conceptions of TVET and reposition Islamic schools as adaptive actors in regional skills ecosystems. Future research should incorporate comparative field studies, longitudinal institutional analysis, and multilingual databases to deepen empirical and contextual understanding.

Keywords

Islamic education; SLR; skills training; Southeast Asia; Vocational Education.



© 2026 by the author. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY NC) (<https://creativecommons.org/licenses/by-nc/4.0/>).

INTRODUCTION

Vocational education and skills training are increasingly recognized as essential in preparing human resources for the demands of the global labor market and for advancing the national development agenda (Karim & Mustapha, 2022; Zulmuqim et al., 2020). In Southeast Asia, the integration of vocational education and training (VET), often framed as Technical and Vocational Education and Training (TVET), has been actively pursued to support the Sustainable Development Goals (SDGs) and economic competitiveness (Abdul Rahim et al., 2022; Abdul Razak et al., 2022; Hasif et al., 2024). Along with these state-driven initiatives, traditional Islamic educational institutions such as Islamic boarding schools in Indonesia (Daulay & Tobroni, 2017), boarding schools in Malaysia and Thailand, madrassas in Brunei Darussalam, and similar institutions in Singapore have historically served as important sites for transmitting not only religious and moral values but also life skills, work ethic, and competencies related to employability (Bustamam-ahmad, 2015; Thoyib, 2021; Yusuf et al., 2024; Zulmuqim et al., 2020). Islamic education in Southeast Asia has shown remarkable adaptability, starting from the integration of modern science into the curriculum of Islamic boarding schools in Indonesia (Hadi et al., 2024; Nurtawab & Wahyudi, 2022) to balance traditional religious learning with national education reforms in Malaysia and Thailand (Hanif et al., 2024; Latief, 2021; Tayeb, 2017). The latest study further highlights the role of pesantren in fostering survival skills (Susanto et al., 2025), independent learning, tolerance, and leadership competence (Thoyib, 2021; Yusuf et al., 2024).

Despite these contributions, the intersection between vocational education and traditional Islamic schools remains a unique but understudied phenomenon. Existing research on Islamic education has largely examined the religious, social, political, or pedagogical dimensions, while paying limited attention to vocational education and skills training as structured and evolving institutional practices. Since the expansion of formal TVET systems in Southeast Asia began in the mid-1970s, vocational education has largely been framed through a state-centered and secular policy lens, leading scientific analysis to focus primarily on formal vocational schools and national TVET institutions. This focus has contributed to the marginalization of traditional Islamic institutions in vocational education research, regardless of their scale and historical continuity; for example, Indonesia alone is home to more than 30,000 Islamic boarding schools that educate more than four million students, many of whom have combined vocational skills and livelihoods in various forms since the late twentieth century. In addition, existing studies tend to be local and institution-specific,

limiting comparative understanding of how different policy environments, state-religious relations, and socio-economic conditions shape the integration of vocational education into Islamic schools across Southeast Asia. As a result, there is limited empirical and historical insight into how vocational education and skills courses have been embedded in traditional Islamic institutions across national contexts, or how these practices have evolved since the mid-1970s, when formal TVET systems began to develop in the region (Dahalan & Silva, 2020; Sunhaji, 2017).

In addition to this empirical and comparative gap, the literature is characterized by a lack of theoretical integration in the study of vocational education in Islamic schools. While Human Capital Theory and the Ability Approach (MacKenzie & Chiang, 2023) offers an important perspective on human employability and development, and Social Identity Theory (Gupta, 2022) highlighting the role of education in shaping religious and cultural identity (Zedan, 2025). These frameworks are rarely implemented in a complementary manner. As a result, vocational education in Islamic institutions is often framed either as an improved response to labor market exclusion or as a peripheral addition to the religious curriculum, rather than as a strategic institutional adaptation (Nakar, 2025). This narrow conceptualization obscures the potential for vocational education to function simultaneously as an economic, developmental, and identity-forming process within the traditional Islamic education system (Kryger & Qvortrup, 2025). Addressing these interrelated gaps motivated this research to systematically synthesize empirical evidence across countries and over five decades, resulting in theoretical, pedagogical, and policy implications that reconceptualize vocational education as an integral component of the tradition of Islamic schools in Southeast Asia (Afifudin et al., 2025; COMCEC, 2018).

Existing studies from Fauziah et al. (2024) on vocational education and skills training in the context of Islamic education in Southeast Asia remains fragmented and largely institution-specific. Research on Islamic values and green skills in Islamic vocational high schools, for example, has shown the positive influence of religious values on students' acquisition of environment-oriented competencies. However, such studies are limited by their focus on formal vocational schools operating within the national education system, rather than on traditional Islamic educational institutions such as pesantren, cottages, or madrasas. Moreover, their instrumental and thematic emphasis on specific skill domains, such as green skills, tends to ignore the broader historical and institutional processes in which vocational education has been structurally and culturally embedded in Islamic education. The local and single institutional scope of the study further limits its ability to

explain the cross-national variation and long-term developments in vocational education across Southeast Asia (Xu et al., 2021).

Similarly, learning from Danil et al. (2025) on examining independent learning in vocational secondary schools within the framework of Islamic religious education primarily addresses micro-level pedagogical challenges, including students' learning habits and access to digital resources. Although these findings are valuable for grade-level innovation, they conceptualize Islamic education primarily as a curricular subject rather than as a holistic education system with socio-economic functions. As a result, the strategic relationship between independent learning, vocational skills development, and the formation of Islamic identity is still underexplored. This limitation is also evident in research from Zain et al. (2025) on women's leadership in Islamic vocational high schools, which highlights the integration of Islamic leadership values and quality management practices but focuses primarily on governance and leadership actors. Such studies do not adequately address vocational curricula or skills training practices, nor do they consider how vocational education has historically evolved as an adaptive strategy of traditional Islamic institutions in response to socio-economic changes.

A closer examination of five major review-based and SLR studies in the field (Fauziah et al., 2024; Xu et al., 2021; Dahalan & Silva, 2020; Sunhaji, 2017; COMCEC, 2018) reveals a consistent pattern of omission. None of these studies systematically includes traditional Islamic educational institutions such as pesantren, pondok schools, or madrasas as primary analytical units in examining vocational education development. Their datasets are largely confined to formal, state-regulated TVET institutions, national policy frameworks, or thematic domains (e.g., green skills, governance reform, curriculum modernization). Moreover, no existing review provides a longitudinal synthesis tracing the evolution of vocational education within Islamic schools across Southeast Asian countries since the institutional expansion of TVET in the mid-1970s. At the theoretical level, the reviewed studies apply economic, capability-based, or identity-based perspectives in isolation, without offering an integrated analytical framework capable of explaining vocational education in Islamic institutions as a multidimensional institutional adaptation. Therefore, the absence of a cross-country, longitudinal, and theoretically integrated systematic synthesis constitutes a clear research gap, which this study addresses by repositioning traditional Islamic schools as active and adaptive actors within Southeast Asia's vocational education landscape.

In response to this gap, this study offers a new and systematic examination of vocational education and skills training embedded in traditional Islamic educational institutions in Southeast Asia over the past five decades, a period marked by profound demographic, economic, and sociocultural transformations. By integrating Human Capital Theory, Ability Approach, and Social Identity Theory, this study advances a multidimensional analytical framework that conceptualizes vocational education not only as a labor market integration mechanism but also as a path to human development and the strengthening of religious and cultural identity in Islamic schools. Empirically (Bustamam-ahmad, 2015; Sunhaji, 2017), the study adopts a cross-national perspective that includes Indonesia, Malaysia, Singapore, Brunei Darussalam, and Thailand, representing diverse Islamic educational traditions, various state policies, and varying degrees of integration of religious schools into the national education system. This comparative approach generates new insights into how traditional Islamic institutions negotiate state regulations, economic demands, and socio-cultural changes, thus positioning Islamic schools as active and historically grounded contributors to skills development, social mobility, and broader national development agendas in the context of Muslim majorities and Muslim minorities in Southeast Asia (Suradi, 2022; Vidhiputra, 2025).

From a theoretical point of view, the Theory of Human Capital (Becker, 1993) and the Capability Approach (Mon, 1999) provides a lens for understanding the dual role of vocational education in Islamic schools: as a means to improve employability and as a path to human development (Bustamam-ahmad, 2015; Sunhaji, 2017). At the same time, Social Identity Theory (Tajfel & Turner, 1979), which is applied to Islamic education, underlines how vocational skills training in pesantren or madrassas not only equips students for the labor market but also strengthens religious and cultural identities (MAY, 2024; Mas'ud et al., 2019). However, despite the relevance of this framework, there is currently no comprehensive synthesis that systematically examines the vocational education and skills training embedded in traditional Islamic schools in Southeast Asia over the past five decades.

Against this background, this systematic literature review applies the PRISMA framework to synthesize peer-reviewed studies published between 1975 and 2025. The study aims to identify, analyze, and compare how vocational education and skills training programs have been implemented in traditional Islamic education systems in five Southeast Asian countries. This research is guided by the following questions: first, how was vocational education and skills training conceptualized and implemented in traditional Islamic educational institutions in Indonesia,

Malaysia, Singapore, Brunei Darussalam, and Thailand from 1975 to 2025? Second, what similarities and differences can be observed in these five countries in terms of approaches, policies, and practices? And third, what are the theoretical, pedagogical, and policy implications that emerge from the integration of vocational education into the tradition of Islamic schools in Southeast Asia? By answering these questions, this review seeks to illuminate the overlooked dimensions of Islamic education and vocational training scholarship.

From a theoretical perspective, this research contributes to the literature by bridging vocational education and Islamic education through an integrated analytical lens informed by Human Capital Theory, Ability Approaches, and Social Identity Theory, thereby advancing the multidimensional understanding of vocational education as an economic process, human development (Bustamam-ahmad, 2015; Sunhaji, 2017), and identity formation in the religious school system.

From a pragmatic perspective, these findings are expected to provide evidence-based insights for policymakers, education leaders, and practitioners by illustrating how traditional Islamic institutions have historically adapted vocational education to diverse labor market demands, regulatory environments, and sociocultural contexts. Thus, this study highlights how the synergy between vocational education and Islamic school traditions contributes to broader educational reform, skills development, and socio-economic advancement in the context of Muslim majorities and Muslim minorities across Southeast Asia.

METHOD

Design Review

This study uses the Systematic Literature Review (SLR) method guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) 2020 statement (Page et al., 2021). The PRISMA framework was chosen because it ensures methodological accuracy, transparency, and reproducibility in the review process. Since there has been no prior systematic synthesis of vocational education and skills training in traditional Islamic educational institutions in Southeast Asia, the SLR approach is considered most appropriate for identifying, evaluating, and synthesizing evidence spanning five decades (1975–2025).

Data Sources and Search Strategies

The primary database used for this review is Scopus, chosen for its comprehensive coverage of high-quality peer-reviewed journals across disciplines (Mongeon & Paul-Hus, 2016). The search string is developed iteratively using Boolean operators to capture variations of key concepts: ("vocational education" OR "skills training" OR "TVET") AND ("Islamic education" OR "pesantren" OR "madrasah" OR "hut") AND (Indonesia OR Malaysia OR Singapore OR Brunei OR Thailand).

This question is limited to publications between 1975 and 2025, in English, and to journal articles at the final publication stage. The initial search yielded 2,099 records, which were progressively refined through a filtering process.

Eligibility Criteria

Inclusion and exclusion criteria are determined prior to screening to ensure consistency. Eligible studies meet the following requirements: (1) focus on vocational education, skills training, or TVET in traditional Islamic education (e.g., pesantren, cottages, madrasas) in one of the five target countries; (2) published between 1975 and 2025; (3) peer-reviewed journal articles written in English; and (4) discuss pedagogical practices, policies, outcomes, or institutional integration of vocational education in the tradition of Islamic schools. Studies are excluded if: (1) focus only on general Islamic education without reference to vocational or skills training; (2) are relevant vocational education outside the Southeast Asian context; and (3) a conference proceedings, editorials, dissertations, or non-peer-reviewed material. The inclusion and exclusion criteria were operationalized into a screening protocol applied consistently across all stages to ensure methodological transparency and reproducibility.

Screening and Selection Process

All records retrieved from the Scopus database were exported into Microsoft Excel for systematic screening, deduplication, and eligibility verification. The screening process followed a multi-stage filtering procedure aligned with PRISMA 2020 guidelines to ensure transparency and replicability. In the identification stage, 2,099 records were initially retrieved from Scopus. After removing duplicate entries and non-eligible document types (such as conference proceedings, editorials, and non-final publications), 1,606 records remained. During the title screening phase, articles that did not explicitly address vocational education, skills training, or TVET within traditional Islamic educational institutions were excluded, resulting in 167 potentially relevant studies.

The abstract screening stage further examined conceptual relevance, geographic scope, and institutional context, reducing the number of eligible articles to 53. Studies were excluded at this stage if they focused solely on general Islamic education without vocational components or were conducted outside Southeast Asia. Full-text assessment was then conducted to evaluate methodological clarity, empirical relevance, and alignment with inclusion criteria. After this final stage, 32 peer-reviewed studies met all eligibility requirements and were included in the final synthesis. Each stage applied predefined inclusion and exclusion criteria, ensuring methodological rigor and minimizing selection bias. The detailed numerical reduction across stages is illustrated in the revised PRISMA 2020 flow diagram (Figure 1).

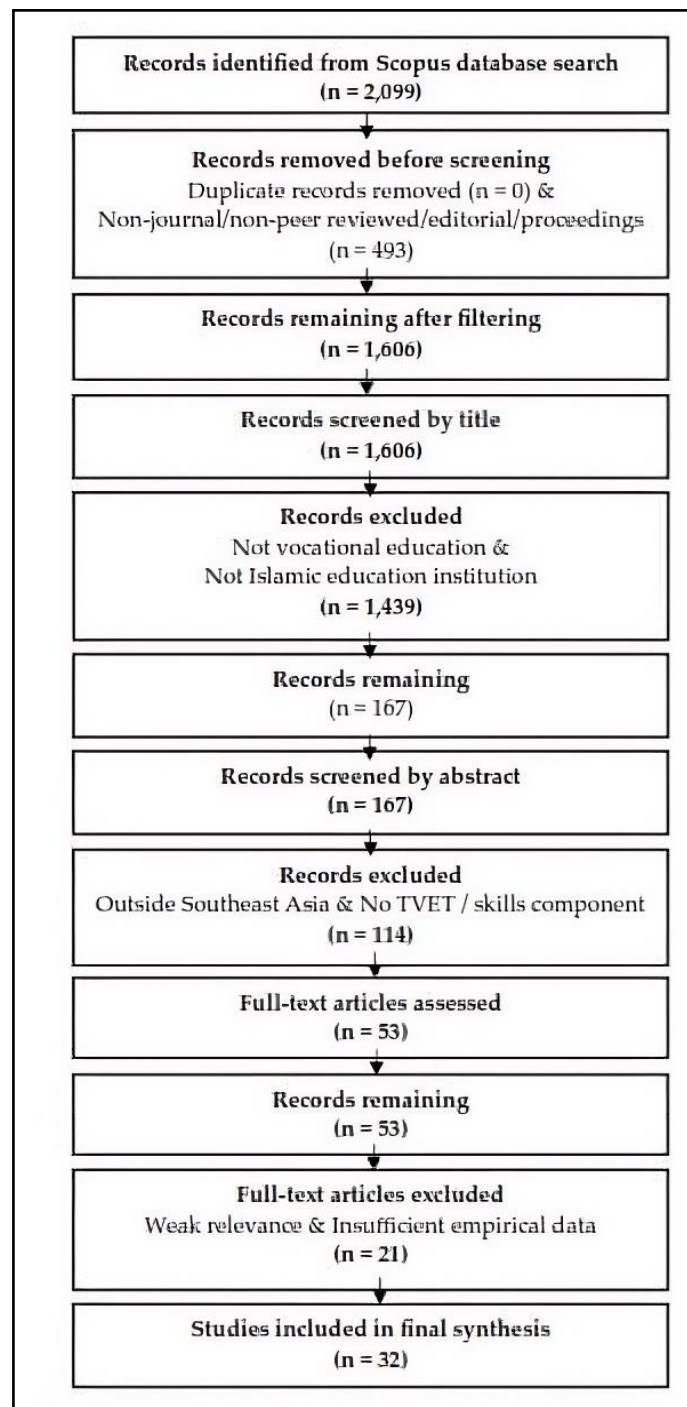


Figure 1. PRISMA 2020 Flowchart for Study Selection

Data Extraction and Coding

Structured data extraction templates are developed to ensure consistency. Important information recorded includes: author, year, country, institutional context (pesantren, cottage, madrasah), type of vocational education or skills training, research design, key findings, and relevance to the research question. Extraction was done independently by two reviewers to minimize bias, with differences resolved through discussion. Table 1 presents an overview of the bibliometric characteristics of the included studies.

Table 1. Data Exclusion and Inclusion Criteria

Section	Component	Description / Distribution	Remaining (n)
Screening and Selection Process (PRISMA 2020)	Identification	Initial Scopus search	2,099
	Deduplication &	Remove duplicates & non-journal articles (non-peer reviewed, proceedings, editorial)	1,606
	Type Filtering	Topic relevance screening (not vocational / not Islamic institution excluded)	167
	Title Screening	Conceptual & geographic relevance (outside Southeast Asia / non-TVET focus excluded)	53
	Abstract Screening	Detailed methodological assessment (weak relevance / insufficient data excluded)	32
Characteristics of Included Studies (n = 32)	Full-text Eligibility	1975–1990 (3); 1991–2005 (6); 2006–2020 (12); 2021–2025 (11)	-
	Year of Publication	Indonesia (18); Malaysia (7); Thailand (3); Brunei (2); Singapore (2)	-
	Country Focus	Islamic Boarding School (15); Cottage (7); Madrasah (6); Hybrid/Other (4)	-
	Educational Settings	Skills training (14); TVET integration (9); Life skills/self-reliance programs (9)	-
	Types of Vocational Education	Qualitative (15); Quantitative (7); Mixed method (10)	-
	Research Approach		

Quality Assessment

To assess the methodological quality of the included studies, the Critical Appraisal Skills Programme (CASP) checklist was adapted for both qualitative and quantitative designs (Singh, 2013). Each study was assessed based on clarity of objectives, methodological suitability, validity of findings, and relevance to the review questions. Studies are not excluded based on assessment, but quality assessments inform the weight given to findings during synthesis.

Data Synthesis

A thematic synthesis approach is applied (Thomas & Harden, 2008). The findings are inductively coded and grouped into categories that reflect the conceptualization of vocational education, modes of integration into Islamic schools, and the impact on students and society. Cross-country comparisons were then conducted to identify similarities and divergences in Indonesia, Malaysia, Singapore, Brunei Darussalam, and Thailand.

FINDINGS AND DISCUSSION

Findings

Vocational Education and Skills Training in Traditional Islamic Institutions (RQ1)

In five Southeast Asian countries, vocational education in traditional Islamic schools has been conceptualized in a variety of ways, ranging from structured TVET programs to informal skills training embedded in religious curricula (Othman, 2019; Triyono & Mateeke Moses, 2019; Yok et al., 2019). Table 2 presents the distribution of vocational education types and their prevalence across educational settings.

Table 2. Distribution of Integration of Vocational Education in Islamic Schools (n = 32)

No	Country	Setup	Vocational/Skills Orientation	Representative Studies
1	Indonesia	Islamic Boarding School, Madrasah	Life skills (independence, survival skills), TVET integration	(Hanif et al., 2024; Nurul et al., 2023; Ritonga & Desrani, 2025)
2	Malaysia	Cottage, Madrasah	Work-based learning, digital pedagogy, SDG-oriented TVET	(Hasif et al., 2024; Mohd. Jamil et al., 2023)
3	Thailand	Cottage	Integration of agriculture and handicrafts with Qur'an learning	(Hadi et al., 2024)
4	Brunei	Madrasah	The curriculum combines religious studies and national vocational modules	(Zakariyah, 2024)
5	Singapore	Madrasah	A hybrid program that combines IT skills with Islamic education	(Malik, 2023)

Table 2 presents the distribution of vocational education integration across the 32 reviewed studies. The table demonstrates that vocational education in traditional Islamic schools is implemented through several dominant models. The largest proportion of studies (n = 14 of 32) reported skills-training programs focusing on practical competencies such as handicrafts, agriculture, entrepreneurship, and community-based economic activities. A second cluster of studies (n = 9 of 32) examined the formal integration of Technical and Vocational Education and Training (TVET) into Islamic educational institutions, particularly through structured curricula aligned with national education frameworks. Another comparable proportion (n = 9 of 32) emphasized life-skills and self-reliance programs, highlighting vocational learning embedded in daily boarding school activities such as survival skills, independent living, and communal work practices.

From a geographical perspective, the distribution of studies shows a strong concentration in Indonesia (n = 18), followed by Malaysia (n = 7), Thailand (n = 3), Brunei Darussalam (n = 2), and

Singapore ($n = 2$). This pattern reflects the relative scale and institutional diversity of Islamic education systems across Southeast Asia. In terms of educational settings, Islamic boarding schools represent the most frequently examined context ($n = 15$), followed by cottage-based institutions ($n = 7$), madrasas ($n = 6$), and hybrid or alternative institutional models ($n = 4$). Overall, the data presented in Table 2 confirm that vocational education in Islamic schools is not limited to formal curriculum integration but also appears in culturally embedded and community-oriented training models across multiple institutional settings.

Qualitative evidence deepens this picture. In their ethnographic records, Nurul et al. (2023) documents how "the shared values preserved in the Sidogiri Islamic Boarding School shape the identity of the institution, with vocational practices embedded in communal economic activities" (p. 38). This illustrates that skills training is not limited to formal courses but is integrated into the life practices of the pesantren community. Similarly, Scarlett & Desrani (2025) found that the pesantren program developed resilience, with one student noting, "We learned not only the yellow book, but also how to cook, garden, and manage ourselves to survive" (p. 632). Instead, Hadi et al. (2024) expresses tensions in integrating science and vocational content, with one teacher stating, "We have to adapt, but some elders refuse, fearing that secular skills will weaken the spirit of the pesantren" (p. 109). Taken together, the data show that while quantitative evidence highlights the increasing formalization of vocational curricula, qualitative accounts emphasize the cultural and religious negotiations that shape their implementation.

Cross-Border Similarities and Differences (RQ2)

Comparative analysis in five countries reveals convergence and divergence. Figure 2 illustrates the distribution of included studies across countries and types of vocational integration.

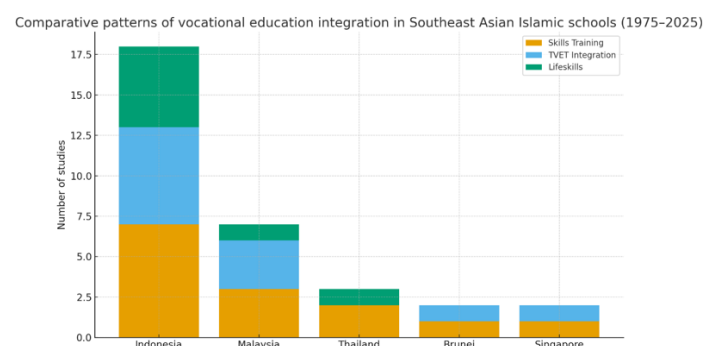


Figure 2. Comparative Patterns of Integration of Vocational Education in Southeast Asian Islamic Schools (1975–2025)

Indonesia and Malaysia show the strongest emphasis on formal TVET programs, supported by government reforms and policy frameworks (Rus et al., 2023; Wilson, 1991). Malaysia, for example, has experimented with digital pedagogy and projects aligned with the SDGs, demonstrating a strong link between cottages and national TVET policies (Hasif et al., 2024; Mohd. Jamil et al., 2023). Thailand and Brunei present a hybrid approach, where the vocational element remains closely linked to agricultural or religious activities. Singapore madrasas have developed a unique model to combine IT and business-related skills, reflecting the priorities of the city-state's labour market (Malik, 2023).

Qualitative studies reveal nuanced differences. In Malaysia, Hasif et al. (2024) report that vocational projects foster "deep fulfillment" among learners, beyond mere technical competence (p. 272). On the other hand, Indonesian Islamic boarding schools sometimes reject the imposition of the national curriculum. Hanif et al. (2024) illustrate how pesantren leaders argue that "the government curriculum can only be accepted if it is in harmony with the values of the pesantren (p. 15). This juxtaposition shows a difference: Malaysia tends towards the systemic integration of vocational education into Islamic schools, while Indonesian pesantren maintain autonomy and adapt selectively. These findings suggest that while there are similarities in recognizing vocational education as essential, the differences lie in the level of state involvement and the balance between tradition and modernization.

Theoretical, Pedagogical, and Policy Implications (RQ3)

Synthesizing the reviewed studies reveals critical implications. From a theoretical lens, Human Resource Theory explains why the state emphasizes vocational education in Islamic schools: to improve employability and economic productivity (Becker, 1993). However, qualitative evidence underlines that Islamic boarding schools and boarding schools do not view vocational training solely as preparation for the labor market but also as part of the formation of religion and morals. As the leader of the pesantren interviewed by Joseph et al. (2024) He said, "Vocational education is about dignity; Our students must serve their families and communities with skill and faith" (p. 246). This reflects Sen (1999) The Ability Approach, where skills are framed as improving human development rather than just employability (Bustamam-ahmad, 2015; Sunhaji, 2017).

Pedagogically, the reviewed studies highlight innovative models such as project-based learning, community farming, and digital pedagogy. This innovation is in line with the principles of TVET while respecting the tradition of Islamic education (Mohd. Jamil et al., 2023). However, in

terms of policy, the survey shows fragmentation. Countries such as Malaysia and Singapore provide strong state support, while Indonesia demonstrates the tension between the autonomy of Islamic boarding schools and the national curriculum framework (Hanif et al., 2024).

Quantitative data show widespread adoption of vocational education in Islamic schools, but qualitative evidence reveals rejection, adaptation, and reinterpretation. Together, the synthesis shows that vocational education in Islamic schools has a dual role: fulfilling economic imperatives and strengthening Islamic identity.

Across Southeast Asia, traditional Islamic education has been deeply involved with vocational education and skills training, albeit with significant variation across countries. The results of this study highlight the central role of Islamic boarding schools and boarding schools in Indonesia and Malaysia, Brunei, and Thailand's adaptive strategies, and Singapore's hybrid innovations. Evidence suggests that vocational education in Islamic schools is not just a technical addition but a negotiating practice shaped by religious identity, cultural traditions, and state policies. Quantitative studies show the prevalence and formalization of vocational integration, while qualitative evidence emphasizes life experiences, tensions, and the process of meaning-making. Together, these findings suggest that vocational education in traditional Islamic schools is best understood as a dynamic interaction between the demands of the global economy and local religious-cultural traditions.

Discussion

This systematic literature review synthesized evidence from 32 peer-reviewed studies examining vocational education and skills training within traditional Islamic educational institutions across Southeast Asia from 1975 to 2025. The synthesis reveals three central empirical findings. First, vocational education has become increasingly embedded in Islamic schooling systems, evolving from informal life-skills transmission into more structured and diverse programs, including TVET integration, entrepreneurship training, agricultural practices, and hybrid digital learning (Thoyib, 2021; Yusuf et al., 2024). Second, cross-national variation is evident: Indonesia and Malaysia show stronger institutionalization of vocational curricula, Thailand and Brunei emphasize community-based and agriculture-oriented practices, while Singapore demonstrates hybrid innovations aligned with national labour market priorities (Hasif et al., 2024; Mohd. Jamil et al., 2023). Third, across contexts, vocational education is consistently framed not only as a pathway to employment but also as part of religious duty, moral development, and communal responsibility (Hanif et al., 2024; Latief, 2021; Nurtawab & Wahyudi, 2022). These findings collectively indicate

that vocational education in Islamic schools functions as a multidimensional educational practice shaped by policy environments, institutional traditions, and religious-cultural values (Hadi et al., 2024; Zakariyah, 2024).

When interpreted through Human Capital Theory (Becker, 1993) The findings suggest that the increasing integration of vocational education reflects broader state and institutional efforts to enhance workforce readiness and economic productivity (Faiz et al., 2025; Mas'ud et al., 2019; Tayeb, 2017). Evidence from Malaysia and Singapore shows strong policy alignment between Islamic schools and national TVET agendas, highlighting vocational programs as mechanisms for labour market participation. (Ritonga & Desrani, 2025; Yusuf et al., 2024). Quantitative patterns across the reviewed studies also demonstrate a trend toward formalization and institutionalization of skills training, reinforcing the economic rationale emphasized by Human Capital perspectives.

However, the qualitative evidence synthesized from the reviewed studies indicates that vocational education in Islamic schools extends beyond economic objectives. Many educators and students frame vocational learning as a means of cultivating dignity, independence, and community service. This interpretation resonates with the Capability Approach (Sen, 1999), which views education as expanding human freedom, agency, and social participation rather than merely enhancing employability. Skills training within pesantren and madrasas is often embedded in daily communal practices, suggesting that vocational education contributes to holistic human development and moral formation alongside technical competence (Bustamam-ahmad, 2015; Sunhaji, 2017).

Furthermore, the variation observed across countries and institutional contexts can be understood through Social Identity Theory (Tajfel & Turner, 1979). Islamic schools frequently negotiate external policy pressures while preserving their religious and cultural identities (Sunhaji, 2017; Thoyib, 2021; Yusuf et al., 2024). The coexistence of formal TVET integration with traditional community-based practices demonstrates how institutions adapt to modernization without abandoning core educational values (Abdul Rahim et al., 2022; Abdul Razak et al., 2022; Dahalan & Silva, 2020; Karim & Mustapha, 2022; Mohd. Jamil et al., 2023). Vocational programs, therefore, function not only as technical training mechanisms but also as instruments for reinforcing institutional identity, collective belonging, and cultural continuity.

Taken together, the findings highlight that vocational education in traditional Islamic schools represents a dynamic interaction between economic imperatives, human development goals, and identity formation processes (Bustamam-ahmad, 2015; Sunhaji, 2017). Rather than a uniform policy-driven reform, vocational education emerges as a negotiated practice shaped by state regulations, local traditions (Ocasio, 2023; Slikkerveer, 2019), and pedagogical philosophies. By systematically synthesizing evidence across five Southeast Asian countries over five decades, this study demonstrates that Islamic educational institutions are active contributors to vocational innovation and social development while maintaining distinctive religious and cultural logics. (Zulmuqim et al., 2020).

The findings also generate practical implications. Policymakers should design vocational education reforms that acknowledge institutional diversity and respect the autonomy of Islamic schools while supporting national development agendas (Erismann et al., 2021; Setkute & Dibb, 2025). Educators and school leaders may strengthen program effectiveness by aligning vocational curricula with religious values and community expectations (Rodliyah et al., 2024). Development partners and NGOs should recognize the embedded socio-cultural significance of skills training to ensure program acceptance and sustainability (Banks, 2021). Overall, the synthesis underscores the importance of context-sensitive approaches that bridge modern vocational demands with longstanding Islamic educational traditions (McGrath & Yamada, 2023).

CONCLUSION

This systematic literature review set out to examine how vocational education and skills training have been conceptualized and implemented in traditional Islamic educational institutions across Southeast Asia, to compare cross-national patterns, and to identify the theoretical, pedagogical, and policy implications emerging from these practices. The synthesis of 32 peer-reviewed studies confirms that vocational education has evolved from informal life-skills transmission into increasingly structured and context-sensitive educational practices embedded within Islamic educational traditions over the past five decades.

First, in response to the question of conceptualization and implementation (RQ1), the findings demonstrate that vocational education in traditional Islamic schools is not a uniform or purely technical addition but takes diverse forms, including formal TVET integration, community-based skills training, entrepreneurship programs, and hybrid digital learning models. Across

contexts, vocational learning is frequently framed not only as preparation for employment but also as part of religious responsibility, moral development, and community service, reflecting the embedded nature of skills education within Islamic pedagogical philosophy.

Second, addressing cross-national similarities and differences (RQ2), the review reveals both convergence and divergence across the five countries. Indonesia and Malaysia show stronger institutionalization and policy-supported vocational curricula, whereas Thailand and Brunei emphasize community-oriented and agricultural practices rooted in local traditions. Singapore represents a hybrid model that integrates technological and entrepreneurial competencies aligned with national economic priorities. These differences highlight how national education policies, institutional autonomy, and socio-cultural contexts shape the adaptation of vocational education within Islamic schooling systems.

Third, concerning theoretical, pedagogical, and policy implications (RQ3), the findings support a multidimensional understanding of vocational education. From a theoretical perspective, the integration of Human Capital Theory, Capability Approach, and Social Identity Theory illustrates that vocational education in Islamic schools simultaneously functions as a mechanism for economic participation, human development, and identity formation. Pedagogically, innovative approaches such as project-based learning, community engagement, and digital integration demonstrate how Islamic institutions adapt modern vocational practices while preserving religious values. From a policy standpoint, the review underscores the importance of context-sensitive reforms that respect institutional autonomy while supporting national development agendas.

REFERENCES

- Abdul Rahim, K. A., Jewaratnam, J., & Che Hassan, C. R. (2022). Identification of Noise Levels for Skill Training Activities, Equipment, Machines, and Power Tools at TVET Institutes in Malaysia. In *International Journal of Environmental Research and Public Health* (Vol. 19, Issue 23, p. 15783). <https://doi.org/10.3390/ijerph192315783>
- Abdul Razak, A. N., Noordin, M. K., & Abdul Khanan, M. F. (2022). Digital Learning in Technical and Vocational Education and Training (TVET) In Public University, Malaysia. *Journal of Technical Education and Training*, 14(3 SE-Articles), 49–59. <https://publisher.uthm.edu.my/ojs/index.php/JTET/article/view/10974>
- Afifudin, S., E., H., Y., & Widiyanti. (2025). Bridging Religious Education and Workforce Demands: Evaluating Vocational High Schools in Islamic Boarding School Contexts. *Journal of Applied Educational Study*, 1(3 SE-Articles), 6–18. <https://doi.org/10.64460/jaes.v1i3.108>
- Banks, N. (2021). *The Role and Contributions of Development NGOs to Development Cooperation: What Do We Know?* BT - *The Palgrave Handbook of Development Cooperation for Achieving the 2030 Agenda: Contested Collaboration* (S. Chaturvedi, H. Janus, S. Klingebiel, X. Li, A. de Mello e

- Souza, E. Sidiropoulos, & D. Wehrmann (eds.); pp. 671–688). Springer International Publishing. https://doi.org/10.1007/978-3-030-57938-8_31
- Becker, G. S. (1993). *Human Capital: A Theoretical and Empirical Analysis* (3rd ed.). University of Chicago Press. <https://doi.org/http://dx.doi.org/10.7208/chicago/9780226041223.001.0001>
- Bustamam-ahmad, K. (2015). Educational Practice: Lessons to Be Learned from Madrasah and Religious Schools. *Indonesian Journal of Islam and Muslim Societies*, 5(1), 29–48.
- Dahalan, D., & Silva, J. L. D. (2020). Entrepreneurial Mindset Among Students of Technical and Vocational Education and Training (TVET) Institutions in Malaysia. *The Journal of Social Sciences Research*, 4, 303–311.
- Dahlan, Z., & Yusuf, M. (2025). The Development of Islamic Boarding School-Based Higher Education System (Ma'had 'Aly) in Indonesia. *International Research Journal of Multidisciplinary Scope*, 6(3), 677–688. <https://doi.org/10.47857/irjms.2025.v06i03.04984>
- Danil, M., Wirdati, W., & Darmansyah, D. (2025). Student Problems in Self-Directed Learning: A Survey of Vocational High School Students in Islamic Religious Education. *FWU Journal of Social Sciences*, 19(3), 157–166. <https://doi.org/10.51709/19951272/Fall2025/11>
- Daulay, H. P., & Tobroni. (2017). Islamic Education in Indonesia: A Historical Analysis of Development and Dynamics. *British Journal of Education*, 5(13), 109–126.
- Erismann, S., Pesantes, M. A., Beran, D., Leuenberger, A., Farnham, A., Berger Gonzalez de White, M., Labhardt, N. D., Tediosi, F., Akweongo, P., Kuwawenaruwa, A., Zinsstag, J., Brugger, F., Somerville, C., Wyss, K., & Prytherch, H. (2021). How to bring research evidence into policy? Synthesizing strategies of five research projects in low-and middle-income countries. *Health Research Policy and Systems*, 19(1), 29. <https://doi.org/10.1186/s12961-020-00646-1>
- Faiz, M., Yaakob, M., Awang, H., Ismail, M. Z., & Zain, F. M. (2025). Backward and Forward Reviews on Technical and Vocational Education and Training (TVET) in Malaysia : The Evolution and ICT-Driven Future Prospect. *Universal Journal of Educational Research*, 8(6), 2197–2203. <https://doi.org/10.13189/ujer.2020.080601>
- Fauziah, R. S. P., Purnomo, A. M., Firdaus, U., Nanyanto, A. B. D., Roestamy, M., Rusli, R. K., Apriliani, A., & Lathifah, Z. K. (2024). Promoting Islamic Values for Green Skill Development in Islamic Vocational High School. *Jurnal Pendidikan Islam*, 10(1), 53–64. <https://doi.org/10.15575/jpi.v10i1.35383>
- Gupta, V. (2022). Understanding a Social Identity Theory. *International Journal of Innovative Research in Computer Science & Technology*, 8, 98–105.
- Hadi, S., Affani, S., & Ayman Al-Akiti, M. (2024). The Challenge of Integrating Science and Religion in Indonesia and Malaysia. *Teosofi: Jurnal Tasawuf dan Pemikiran Islam*, 14(1 SE-Articles), 96–122. <https://doi.org/10.15642/teosofi.2024.14.1.96-122>
- Hanif, M., Mukhroji, S., H., M., A. C., & Dharin, A. (2024). Pesantren Resistance to Indonesia's National Curriculum to Defend Its Curriculum Model. *Revista de Gestão - RGSA*, 18(7 SE-), e05473. <https://doi.org/10.24857/rgsa.v18n7-049>
- Hasif, N., Azwan, M., Rahman, A., Hasan, M. R., Othman, N., Khaled, N., & Talib, A. (2024). JTET Analysing Dominant Returns : Skill Development and Fulfilment in SDG Solution Projects in Eastern Malaysia. *Journal of Technical Education and Training*, 16(2), 264–275.
- Karim, R. A., & Mustapha, R. (2022). TVET Students' Perception of Digital Mind Map to Stimulate Learning of Technical Skills in Malaysia. *Journal of Technical Education and Training*, 1, 1–13.
- Kryger, M., & Qvortrup, A. (2025). Conceptualizing and Developing Vocational Identity - A Scoping Review of Research in Vocational Education and Training. *Vocations and Learning*, 18(1), 15. <https://doi.org/10.1007/s12186-025-09371-8>

- Latief, H. (2021). Becoming The State-Funded Madrasah or Retaining Autonomy: The Case of Two Madrasahs in Kelantan. *Qudus International Journal of Islamic Studies*, 9(1), 1–36.
- M. E T. (2024). Religious Tolerance Among Indonesian Islamic University Students: The pesantren connection. *Journal of Al-Tamaddun*, 19(2), 239–250. <https://doi.org/https://doi.org/10.22452/JAT>
- Ma, W., Shi, S., Zhu, C., Xing, B., Wang, Y., & Shu, J. (2024). Exploration of AI-Empowered Professional Skill Training Models for Normal School Students. *2024 4th International Conference on Educational Technology, ICET 2024*, 31–34. <https://doi.org/10.1109/ICET62460.2024.10868158>
- MacKenzie, A., & Chiang, T.-H. (2023). The Human Development and Capability Approach: A Counter Theory to Human Capital Discourse in Promoting Low SES Students' Agency in Education. *International Journal of Educational Research*, 117, 102121. <https://doi.org/https://doi.org/10.1016/j.ijer.2022.102121>
- Malik, A. (2023). New Variants of Ultra-Conservative Islamic Schools in Indonesia: A Study On Islamic School Endeavor with Islamic Group Movement. *Power and Education*, 16(1), 14–28. <https://doi.org/10.1177/17577438231163042>
- Mas'ud, A., Fuad, A. Z., & Zaini, A. (2019). Evolution and Orientation of Islamic Education in Indonesia and Malaysia. *Journal of Indonesian Islam*, 13(01), 21–49. <https://doi.org/10.15642/JIIS.2019.13.1.21-49>
- McGrath, S., & Yamada, S. (2023). Skills For Development and Vocational Education and Training: Current and Emergent Trends. *International Journal of Educational Development*, 102, 102853. <https://doi.org/https://doi.org/10.1016/j.ijedudev.2023.102853>
- Mohd. Jamil, M. R., Mohamed Hasyim, A. T., Othman, M. S., Ahmad, A. M., Mat Noh, N. R., & Mustaffa Kamal, M. F. (2023). Digital Pedagogy Policy in Technical and Vocational Education and Training (TVET) in Malaysia: Fuzzy Delphi Approach. *Journal of Technical Education and Training*, 15(2 SE-Articles), 1–10. <https://publisher.uthm.edu.my/ojs/index.php/JTET/article/view/13191>
- Mongeon, P., & Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: a comparative analysis. *Scientometrics*, 106(1), 213–228. <https://doi.org/10.1007/s11192-015-1765-5>
- Nakar, S. (2025). Navigating Ethical Landscapes: Vocational Educators' Adaptations Through and beyond COVID-19. *International Journal of Lifelong Education*, 1–27. <https://doi.org/10.1080/02601370.2025.2577204>
- Nurtawab, E., & Wahyudi, D. (2022). Restructuring Traditional Islamic Education in Indonesia: Challenges for Pesantren Institutions. *Studia Islamika*, 29(1 SE-Articles), 55–81. <https://doi.org/10.36712/sdi.v29i1.17414>
- Nurul, A., Uin, K., Malik, M., & Malang, I. (2023). The Practice of Shared Values and Islamic Educational Identity: Evidence from a Pesantren in East Java, Indonesia. *Journal of Indonesian Islam*, 17(01), 58–79.
- Ocasio, W. (2023). Institutions and Their Social Construction: A Cross-Level Perspective. *Organization Theory*, 4(3), 26317877231194370. <https://doi.org/10.1177/26317877231194368>
- Othman, N. (2019). *Vocational Education and Training in Brunei Darussalam BT - Vocational Education and Training in ASEAN Member States: Current Status and Future Development* (B. Bai & Paryono (eds.); pp. 1–23). Springer Singapore. https://doi.org/10.1007/978-981-13-6617-8_1
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ...

- Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Riddell, S., Ahlgren, L., McCluskey, G., & Weedon, E. (n.d.). *Religious Education in a Multicultural Society: Scotland National Report*.
- Ritonga, A. W., & Desrani, A. (2025). The Indonesian Journal of the Social Sciences. The Program for Self-Regulated Learning : An Empirical Study on Survival Skills in Pesantren. *Jurnal Ilmiah PeuradeunPeuradeun*, 13(1).
- Rodliyah, S., Khusnuridlo, M., Fauzi, I., & Baharun, H. (2024). Optimizing the Quality of Islamic Senior High School Graduates Through Curriculum Management of Vocational Programs Based on pesantrens in East Java, Indonesia. *Cogent Education*, 11(1), 2423437. <https://doi.org/10.1080/2331186X.2024.2423437>
- Rus, R. C., Salisu, M. A., Azlan, M., Hussain, M., Firdaus, M., Kamal, M., Hanapi, Z., Idris, M. O., Bamiro, N. B., & Kayode, B. K. (2023). *Systematic Review of Malaysia Technical and Vocational Education (TVET) Sustainability Framework to Increase the Marketability of Graduates*. 6(2), 51–63.
- Sen, A. (1999). *Development as Freedom*. Oxford University Press. <https://books.google.co.id/books?id=NQs75PEa618C>
- Setkute, J., & Dibb, S. (2025). From theory to practice: Practical Implications as a translational bridge Between Research Relevance and Impact. *Industrial Marketing Management*, 125, 131–149. <https://doi.org/https://doi.org/10.1016/j.indmarman.2024.12.017>
- Singh, J. (2013). Critical appraisal skills programme. *Journal of Pharmacology and Pharmacotherapeutics*, 4(1), 76–77. <https://doi.org/10.4103/0976-500X.107697>
- Slikkerveer, L. J. (2019). *Gotong Royong: An Indigenous Institution of Communalism and Mutual Assistance in Indonesia BT - Integrated Community-Managed Development: Strategizing Indigenous Knowledge and Institutions for Poverty Reduction and Sustainable Community Development in Indonesia* (L. J. Slikkerveer, G. Baourakis, & K. Saefullah (eds.); pp. 307–320). Springer International Publishing. https://doi.org/10.1007/978-3-030-05423-6_14
- Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC). (2018). *Skills Development : Vocational Education in the Islamic Countries Skills Development : Vocational Education in the Islamic Countries* (Issue September).
- Sunhaji. (2017). Between Social Humanism and Social Mobilization: The Dual Role of Madrasah in the Landscape of Indonesian Islamic Education Sunhaji. *Journal of Indonesian Islam*, 11(01), 125–144. <https://doi.org/10.15642/JIIS.2017.11.1.125-144>
- Suradi, A. (2022). The Social, Political, and Cultural Perspective of Islamic Education in Palembang Malay. *Journal of Ethnic and Cultural Studies*, 9(3), 56–71. <https://www.jstor.org/stable/48710350>
- Tajfel, H., & Turner, J. C. (1979). *An Integrative Theory of Intergroup Conflict* (W. G. Austin & S. Worchel (eds.)). Brooks/Cole.
- Tayeb, A. (2017). State Islamic Orthodoxies and Islamic Education in Malaysia and Indonesia. *Kajian Malaysia*, 35(2), 1–20.
- Thoyib, M. (2021). Pesantren-based Transformational Leadership : Strategies toward International Superior Madrasah in Indonesia. *Webology*, 18, 1023–1040. <https://doi.org/10.14704/WEB/V18SI05/WEB18279>
- Triyono, M. B., & Mateeke Moses, K. (2019). *Technical and Vocational Education and Training in Indonesia BT - Vocational Education and Training in ASEAN Member States: Current Status and Future Development* (B. Bai & Paryono (eds.); pp. 45–79). Springer Singapore. https://doi.org/10.1007/978-981-13-6617-8_3

- Vidhiputra, R. A. (2025). The Dynamics of Islamic Education in Indonesia : Negotiating Tradition, Modernity, and Socio-Political. *Jurnal Ceteris Paribus: Jurnal Sejarah dan Humaniora*, 4(1), 33–49.
- Wilson, D. N. (1991). Reform of Technical-Vocational Education in Indonesia and Malaysia. *Comparative Education*, 27(2), 207–221. <http://www.jstor.org/stable/3099036>
- Xu, K., Hitt, M. A., Brock, D., Pisano, V., & Huang, L. S. R. (2021). Country Institutional Environments and International Strategy: A Review and Analysis of the Research. *Journal of International Management*, 27(1), 100811. <https://doi.org/https://doi.org/10.1016/j.intman.2020.100811>
- Yok, S., Chrea, S., & Pak, R. (2019). *Technical and Vocational Education and Training in Cambodia: Current Status and Future Development* BT - *Vocational Education and Training in ASEAN Member States: Current Status and Future Development* (B. Bai & Paryono (eds.); pp. 25–43). Springer Singapore. https://doi.org/10.1007/978-981-13-6617-8_2
- Yusuf, M. I., Maimun, A., & As, M. (2024). Transformational Leadership of KH. Yusuf Hasyim in Preserving Traditional Islamic Education at Pesantren Tebuireng. *Munaddhomah: Jurnal Manajemen Pendidikan Islam*, 5, 383–394.
- Zain, M. F., Roqib, M., & Masruri, M. (2025). Advancing Women’s Leadership in Cultivating a Quality Culture in Indonesian Vocational High Schools: An Islamic Educational Perspective. *Munaddhomah*, 6(3), 513–527. <https://doi.org/10.31538/munaddhomah.v6i3.1848>
- Zakariyah. (2024). Improving Madrasah Competitiveness Through Excellent Islamic Education Development Strategies. *Nazhruna: Jurnal Pendidikan Islam*, 7(1), 140–155.
- Zedan, R. (2025). Religious Identity, Ethnic Identity, and Personality Characteristics as Predictors of Educational Identity Among Arabs in Israel. *Journal of Cross-Cultural Psychology*, 56(6), 751–774. <https://doi.org/10.1177/00220221251339050>
- Zulmuqim, Z., Zainimal, Z., Kustati, M., Besral, B., Refinaldi, R., & Adrianoni, A. (2020). *The Characteristics of Pesantren in the Development of Islamic Education in West Sumatra*. <https://api.semanticscholar.org/CorpusID:225729068>