



# International Journal of Artificial Intelligence and Machine Learning

Publisher's Home Page: <https://www.svedbergopen.com/>



Research Paper

Open Access

## Arabic Language Competencies For Academic And Professional Purposes In Generative AI-Enhanced Learning And Workplace Environments: An Empirical Needs Analysis Of Fiqh And Judiciary Students At Universiti Islam Sultan Sharif Ali, Brunei Darussalam

Achmad Yani<sup>1</sup>, Siti Sara Binti Haji Ahmad<sup>2</sup>, Haji Hambali bin Haji Jaili<sup>3</sup>, Hajah Rafidah binti Haji Abdullah<sup>4</sup>, Hajah Norhayati Binti Hj Abdul Karim<sup>5</sup> and Esraa M.H Abed<sup>6</sup>

<sup>1,2,3,4,5&6</sup> Universiti Islam Sultan Sharif Ali (UNISSA), Brunei Darussalam.

### Abstract

This study investigated the Arabic language competencies required by Fiqh and Judiciary students for academic and professional purposes within generative AI-enhanced learning and workplace environments at Universiti Islam Sultan Sharif Ali, Brunei Darussalam. It employed a quantitatively driven explanatory sequential mixed-methods design (QUAN→qual). All 43 first-year students in the department were invited to participate, yielding 29 complete responses. Quantitative data were collected using a validated questionnaire assessing the perceived importance of the targeted competencies and students' self-reported proficiency levels. Subsequently, semi-structured interviews were conducted with a purposively diverse sample of students, academics, and practitioners to provide contextual explanations for the quantitative patterns. Quantitative data were analysed using descriptive statistics, a weighted discrepancy index, and the Wilcoxon signed-rank test, while qualitative data underwent reflexive thematic analysis. The findings were subsequently integrated through a joint explanatory matrix. The results revealed substantial language-learning needs, with an overall mean of 4.31 out of 5, a relative weight of 86.3%, and an aggregate agreement rate of 90.2%. Academic discussion and recognition of Arabic as foundational to academic success jointly ranked highest ( $M = 4.41$ ), followed by the comprehension of Sharia-related texts and research writing ( $M = 4.38$ ). Specialized academic writing recorded the highest level of agreement (96.6%). The relatively narrow range of standard deviations (0.54–0.83) further indicated consistency across participants' assessments. The study recommends developing a task-based curriculum that integrates receptive and productive competencies, terminological precision, and generative AI literacy—particularly prompt formulation, source verification, and the detection of hallucinations and algorithmic bias. The generalizability of the findings is nevertheless constrained by the modest sample size, single-institution setting, and reliance on self-reported data.

**Keywords:** language needs analysis; Arabic for Specific Purposes; academic and professional competencies; Fiqh and Judiciary students; generative artificial intelligence; Islamic higher education; Brunei Darussalam.

## 1. Introduction

For students of Fiqh and Judiciary, Arabic is not merely a subject of study but a primary intellectual and professional instrument for interpreting Islamic legal texts, constructing evidence-based arguments, engaging in disciplinary discourse, and producing legal and juridical writing. Accordingly, effective curriculum design requires a systematic analysis of the gap between learners' current performance and the communicative demands of target tasks, together with the alignment of instructional content with the genres, practices, and professional situations characteristic of the discipline (Long, 2005, pp. 19–76; Brown, 2016, pp. 13–35; Serafini et al., 2015, pp. 11–26; Belcher, 2006, pp. 133–156).

Within such specialised contexts, reading comprehension, terminological competence, oral communication, and academic writing function as mutually reinforcing components of disciplinary performance. They should therefore be conceptualised not as discrete general-language skills, but as interconnected socio-cognitive practices through which disciplinary knowledge is interpreted, negotiated, and communicated. Mastery of specialised vocabulary

enables students to engage precisely with Islamic legal concepts, while advanced reading supports the critical interpretation of authoritative texts. Similarly, oral communication facilitates reasoned participation in academic and professional deliberations, whereas writing provides the principal means of formulating, substantiating, and communicating legal arguments (Deutch, 2003, pp. 125–146; Bosher & Smalkoski, 2002, pp. 59–79; Crosling & Ward, 2002, pp. 41–57; Lea & Street, 1998, pp. 157–172; Hyland, 2002, pp. 385–395; Flowerdew, 2005, pp. 135–147; Schmitt et al., 2011, pp. 26–43; Graham, 2006, pp. 165–182; van Zeeland & Schmitt, 2013, pp. 457–479).

The growing integration of generative artificial intelligence into higher education has introduced new possibilities for personalised writing support, linguistic feedback, and iterative learning (Ng et al., 2021, pp. 1–10; Kohnke et al., 2023, pp. 537–550; Mahapatra, 2024, pp. 1–18). These affordances, however, are accompanied by substantial risks, including fabricated information, excessive dependence, diminished learner agency, and threats to academic integrity (Tlili et al., 2023, pp. 1–25; Farrokhnia et al., 2024, pp. 460–474). Such concerns are particularly consequential in Islamic legal and juridical reasoning, where linguistic fluency cannot be equated with epistemic accuracy, evidential reliability, or soundness of argumentation (Hijazi et al., 2024, pp. 225–249; Boucekif et al., 2025, pp. 246–257).

Addressing the paucity of context-specific evidence from Brunei Darussalam, this study investigates the academic and professional Arabic language competencies required by Fiqh and Judiciary students at Universiti Islam Sultan Sharif Ali within generative AI-enhanced learning and workplace environments. By identifying discrepancies between the perceived importance of these competencies and students' current proficiency levels, the study seeks to provide an empirical foundation for developing a needs-responsive, task-based Arabic curriculum that integrates disciplinary literacy with the critical, ethical, and responsible use of generative AI.

## **2. Theoretical Framework and Literature Review**

### **2.1. Arabic for Specific Purposes and Needs Analysis**

This study is grounded in the framework of Arabic for Specific Purposes (ASP), which conceptualises competence as the ability to perform clearly defined linguistic and cognitive tasks within a particular disciplinary community, rather than merely possessing decontextualised general-language knowledge. From this perspective, needs analysis constitutes a systematic bridge between learners' current performance and the communicative demands of target academic and professional situations. A rigorous needs analysis therefore requires the triangulation of evidence obtained from students, instructors, subject-matter experts, professional practitioners, and authentic disciplinary documents (Long, 2005, pp. 19–32, 48–57; Brown, 2016, pp. 4–13, 65–67; Serafini et al., 2015, pp. 12–21).

The specific-purposes perspective further maintains that pedagogically relevant content should be determined by its responsiveness to the tasks learners are expected to undertake during their studies, in their future workplaces, and within their envisaged professional trajectories (Belcher, 2006, pp. 133–143). Consequently, an Arabic curriculum for Fiqh and Judiciary students should not be organised solely around general grammatical structures or isolated vocabulary. Rather, it should be anchored in the communicative events, textual genres, reasoning practices, and professional responsibilities that define participation in Islamic legal and judicial communities.

### **2.2. Disciplinary Competencies in Fiqh and Judiciary**

Within the fields of Fiqh and Judiciary, the target competency encompasses the ability to read and critically interpret Islamic jurisprudential and legal texts, comprehend lectures and argumentation-based discourse, use specialised terminology accurately, construct and defend oral arguments, and produce research papers, professional reports, and legal memoranda. These competencies are interdependent because linguistic precision directly influences the interpretation of evidence, the formulation of legal judgements, and the cogency of jurisprudential reasoning.

Previous needs-analysis research in legal contexts has demonstrated that the prioritisation of language competencies is shaped by the genres encountered, the frequency with which particular tasks are performed, and the consequences of inadequate performance (Deutch, 2003, pp. 125–140). Research conducted in applied professional settings has likewise shown that needs-analysis findings can be translated directly into courses structured around authentic communicative situations (Bosher & Smalkoski, 2002, pp. 59–74). Studies of workplace communication further indicate that competence cannot be reduced to the delivery of formal presentations; dialogue, participation in meetings, collaborative interaction, and the negotiation of meaning are equally central to effective professional performance (Crosling & Ward, 2002, pp. 41–53). These findings support

a task-based approach in which Arabic instruction reflects the communicative complexity of academic, legal, and judicial practice.

### **2.3. Academic Literacies and Disciplinary Language Practices**

The ASP perspective is complemented by the academic literacies framework, which conceptualises reading, writing, and speaking as epistemic and social practices governed by disciplinary conventions, institutional relationships, and context-specific expectations (Lea & Street, 1998, pp. 157–168). Language learning in higher education therefore involves more than acquiring technical proficiency; it entails learning how knowledge is constructed, evaluated, legitimised, and communicated within a particular academic community.

Accordingly, specialised language instruction should engage learners with the authentic genres through which disciplinary knowledge is produced and disseminated (Hyland, 2002, pp. 385–393). It should also establish meaningful connections among communicative tasks, textual forms, disciplinary content, and critical awareness of the contexts in which discourse is produced and interpreted (Flowerdew, 2005, pp. 135–145). For Fiqh and Judiciary students, this entails sustained engagement with genres such as jurisprudential discussions, legal opinions, judicial arguments, research papers, professional reports, and legal memoranda.

Research on language skills provides further empirical support for this integrated perspective. The successful comprehension of academic texts is closely associated with the extent of learners' lexical coverage (Schmitt et al., 2011, pp. 26–40). Listening difficulties, meanwhile, are linked to processing speed and deficiencies in lexical knowledge, metacognitive awareness, and strategy use (Graham, 2006, pp. 165–178). Moreover, the lexical coverage required for listening differs from that required for reading, underscoring the need for specialised instruction that combines global and detailed comprehension, identification of argument structure, and effective note-taking (van Zeeland & Schmitt, 2013, pp. 457–475). Collectively, these studies suggest that disciplinary reading, listening, speaking, terminology, and writing should be developed as an interconnected competency system rather than as isolated language skills.

### **2.4. Generative AI Literacy in Language Education**

Generative artificial intelligence adds a new dimension to this competency system. AI literacy extends beyond technical proficiency and encompasses an understanding of how AI systems operate, the capacity to use and evaluate their outputs critically, and awareness of their ethical and social implications (Ng et al., 2021, pp. 4–10). In language education, generative AI models can facilitate interactive practice, provide immediate feedback, support drafting and revision, and offer personalised linguistic assistance. However, the effective use of these affordances requires both teachers and learners to possess robust digital, critical, and evaluative competencies (Kohnke et al., 2023, pp. 539–547).

Intervention-based research has reported improvements in students' writing when ChatGPT is employed as a feedback tool within a structured environment supported by explicit training, pedagogical guidance, and human supervision (Mahapatra, 2024, pp. 4–16). Nevertheless, evaluative studies have identified significant risks, including hallucinated information, algorithmic bias, privacy concerns, academic misconduct, excessive dependence, and the potential erosion of higher-order thinking skills (Tlili et al., 2023, pp. 5–20; Farrokhnia et al., 2024, pp. 464–471). Generative AI should therefore be approached not merely as a convenient language-production tool but as an object of critical inquiry whose outputs require systematic scrutiny, verification, and contextual interpretation.

### **2.5. Generative AI in Islamic Legal and Judicial Reasoning**

These concerns become particularly consequential in Fiqh and Judiciary because the surface fluency of AI-generated discourse does not guarantee the accuracy of its citations, the validity of its legal judgements, or the soundness of its reasoning. Evaluations of Arabic legal knowledge have revealed substantial variations in model performance according to the nature of the task and the formulation of the prompt (Hijazi et al., 2024, pp. 225–243). Similarly, assessments of AI-generated reasoning in Islamic inheritance have identified errors in interpreting factual scenarios and applying relevant jurisprudential rules (Boucekif et al., 2025, pp. 246–255). In such high-stakes disciplinary settings, inaccurate attribution, fabricated evidence, or defective reasoning can fundamentally compromise the reliability of an academic or professional conclusion.

Students consequently require more than the ability to generate fluent Arabic texts with AI assistance. They must be able to formulate precise prompts, verify citations against authoritative sources, distinguish linguistic plausibility from substantive validity, detect hallucinations and bias, and assume intellectual and ethical responsibility for the final output.

## 2.6. Research Gap

Despite the expanding literature on language needs analysis, academic literacies, and generative AI in higher education, limited empirical research has integrated these three domains within the Bruneian context. In particular, there remains a paucity of studies examining the academic and professional Arabic language needs of Fiqh and Judiciary students alongside the competencies required for source verification, critical judgement, and the ethical use of generative AI.

The present study addresses this gap through an empirical investigation at Universiti Islam Sultan Sharif Ali, Brunei Darussalam. It conceptualises language need as the discrepancy between the perceived importance of disciplinary competencies and students' current levels of proficiency, while situating this discrepancy within the emerging demands of generative AI-enhanced academic and professional environments. This integrated framework provides the conceptual basis for identifying curriculum priorities that combine disciplinary Arabic competence with critical and responsible AI literacy.

## 3. Methodology

### 3.1. Research Design

The study employed a quantitatively driven explanatory sequential mixed-methods design (QUAN→qual). This design was selected because it enabled the researchers first to identify and quantify discrepancies between the perceived importance of the targeted language competencies and students' current proficiency levels, and subsequently to explain the underlying causes and contextual meanings of those discrepancies. The integration of multiple data sources and methods also facilitated methodological triangulation, making this design more appropriate for analysing the needs of specialised learner populations than a stand-alone quantitative descriptive approach (Long, 2005, pp. 19–32, 48–57; Serafini et al., 2015, pp. 12–21; Ivankova et al., 2006, pp. 5–14).

### 3.2. Participants and Sampling

During the quantitative phase, all 43 first-year students enrolled in the Department of Fiqh and Judiciary, Faculty of Sharia, at Universiti Islam Sultan Sharif Ali were invited to participate through a census approach. Twenty-nine complete questionnaires were retained for analysis, yielding a valid response rate of 67.4%.

Because participation in a census invitation does not produce a probability sample that can automatically be regarded as representative of a wider population, the study's inferences were bounded to the cohort and institutional context investigated. Potential nonresponse bias was examined by comparing the available characteristics of respondents and nonrespondents, rather than treating the response rate alone as sufficient evidence of representativeness (Groves, 2006, pp. 646–655).

### 3.3. Instrument Development

A dual-rating need-analysis questionnaire was developed to assess two dimensions of each competency: (1) its perceived importance within the target academic or professional context and (2) the respondent's current level of proficiency. The instrument was informed by an analysis of relevant curricular documents, authentic academic and professional tasks, and the established literature on language needs analysis (Brown, 2016, pp. 4–13, 65–67).

The questionnaire encompassed competencies related to reading Islamic jurisprudential and legal texts, academic writing, oral argumentation, professional legal drafting, and courtroom advocacy. It also incorporated generative AI literacy competencies, including the formulation of effective Arabic-language prompts; the verification of AI-generated outputs against authoritative Islamic jurisprudential and legal sources; the detection of hallucinations and algorithmic bias; the critical editing of AI-assisted texts; the transparent disclosure of AI use; and the protection of privacy and adherence to ethical principles (Kohnke et al., 2023, pp. 537–550; Miao & Holmes, 2023, pp. 22–25, 30–34).

### 3.4. Validity and Reliability

Content validity was established through interdisciplinary expert review. Both the item-level content validity index (I-CVI) and the scale-level content validity index (S-CVI) were calculated to determine the relevance and representativeness of the questionnaire items. This process was followed by cognitive interviews to assess participants' interpretation of the items and by an independent pilot study to evaluate the instrument's clarity, feasibility, and preliminary psychometric performance.

Internal consistency was estimated using McDonald's omega, thereby avoiding exclusive reliance on Cronbach's alpha and providing a more defensible reliability estimate for the instrument's multidimensional structure (Polit et al., 2007, pp. 459–466; Dunn et al., 2014, pp. 403–409).

### 3.5. Quantitative Data Analysis

The quantitative data were analysed using frequencies and percentages, together with means and standard deviations for comparability and medians and interquartile ranges as the principal summaries of the ordinal ratings. Competency priorities were determined using a weighted discrepancy score calculated as follows: Weighted discrepancy score = (Importance–Current proficiency) × Importance.

This procedure ensured that competencies perceived as highly important but characterised by low current proficiency received the greatest priority. Paired differences between importance and proficiency ratings were examined using the Wilcoxon signed-rank test. Effect sizes and bootstrap confidence intervals were also calculated to estimate the magnitude and uncertainty of the identified gaps, consistent with the logic of the weighted discrepancy model (Borich, 1980, pp. 39–42).

## 4. Results and Discussion

Table 1 presents students' perceptions of the importance of the Arabic language competencies required for academic and professional performance.

**Table 1. Students' perceived need for Arabic language competencies (N = 29)**

| ITEM | COMPETENCY INDICATOR                                                  | MEAN | RELATIVE WEIGHT (%) | AGREEMENT (%) | SD   |
|------|-----------------------------------------------------------------------|------|---------------------|---------------|------|
| 1    | Reading to comprehend Islamic jurisprudential texts                   | 4.38 | 87.6                | 93.1          | 0.62 |
| 2    | Listening to lectures and instructional sessions                      | 4.28 | 85.5                | 86.2          | 0.70 |
| 3    | Speaking and participation in academic discussions                    | 4.41 | 88.3                | 89.7          | 0.68 |
| 4    | Writing research papers and reports                                   | 4.38 | 87.6                | 93.1          | 0.62 |
| 5    | Arabic proficiency and academic success                               | 4.41 | 88.3                | 86.2          | 0.73 |
| 6    | Difficulties in engaging with primary Islamic jurisprudential sources | 4.31 | 86.2                | 86.2          | 0.71 |
| 7    | Accurate use of Islamic legal terminology                             | 4.21 | 84.1                | 93.1          | 0.56 |
| 8    | Academic communication for future professional development            | 4.24 | 84.8                | 82.8          | 0.83 |
| 9    | Critical and analytical reading                                       | 4.24 | 84.8                | 89.7          | 0.64 |
| 10   | Specialised academic listening                                        | 4.28 | 85.5                | 93.1          | 0.59 |
| 11   | Academic oral expression                                              | 4.31 | 86.2                | 93.1          | 0.60 |
| 12   | Specialised academic writing                                          | 4.31 | 86.2                | 96.6          | 0.54 |

Note: Agreement represents the combined percentages of respondents selecting Agree and Strongly agree. Standard deviations were calculated from the marginal response distribution for each item.

Across the 12 items, mean scores ranged from 4.21 to 4.41, relative weights from 84.1% to 88.3%, and agreement rates from 82.8% to 96.6%. The relatively narrow range of standard deviations (0.54–0.83) indicates a generally consistent pattern of responses and confirms the high perceived importance of all competencies investigated.

#### **4.1. General Academic and Professional Arabic Needs**

The first domain, comprising Items 1–8, revealed a high level of perceived need, with an overall mean of 4.33 out of 5, a relative weight of 86.6%, and an average agreement rate of 88.8%. This finding is consistent with the principles of Arabic for Specific Purposes, according to which competence is constructed around authentic disciplinary tasks rather than general linguistic knowledge alone. It also demonstrates the convergence of academic comprehension and professional language use among Fiqh and Judiciary students, corroborating research on Arabic for Specific Purposes (Abdul Ghani et al., 2019, pp. 1–14; Golfetto, 2020, pp. 371–398) and needs analyses conducted in legal, healthcare, and other professional settings (Deutch, 2003, pp. 125–146; Bosher & Smalkoski, 2002, pp. 59–79; Mazdayasna & Tahririan, 2008, pp. 277–289).

The need to speak and participate in academic discussions jointly ranked first with the recognition of Arabic proficiency as essential to academic success. Both items recorded a mean of 4.41 and a relative weight of 88.3%. For academic speaking, 15 students (51.7%) strongly agreed and 11 (37.9%) agreed, producing an overall agreement rate of 89.7%. Three students (10.3%) remained neutral, and no disagreement was recorded. Regarding the importance of Arabic for academic success, 16 students (55.2%) strongly agreed and nine (31.0%) agreed, yielding an agreement rate of 86.2%, while four students (13.8%) selected the neutral response.

These findings indicate that Arabic is perceived not as a peripheral service subject but as an instrument for jurisprudential thinking and for constructing, articulating, and defending disciplinary arguments. The professional communication literature similarly identifies oral performance, dialogue management, intelligible pronunciation, and the negotiation of meaning as central competencies in the transition from academic study to professional practice (Crosling & Ward, 2002, pp. 41–57; Derwing & Munro, 2005, pp. 379–397; Belcher, 2006, pp. 133–156). Specialised reading and academic research writing followed closely, with each recording a mean of 4.38 and a relative weight of 87.6%. For both items, 27 of the 29 participants (93.1%) expressed agreement: 13 students (44.8%) strongly agreed and 14 (48.3%) agreed, while only two (6.9%) remained neutral. This identical response pattern suggests that comprehending Islamic jurisprudential texts and producing academic discourse are complementary processes. Reading enables learners to analyse meaning, context, and argumentation, whereas writing reorganises that understanding into a coherent and methodologically rigorous research paper or report. This interpretation is consistent with research linking reading comprehension to lexical coverage and awareness of discourse structure, as well as genre-based approaches that situate writing within the epistemic practices of particular disciplines (Schmitt et al., 2011, pp. 26–43; Hyland, 2002, pp. 385–395; Flowerdew, 2005, pp. 135–148; Faruq, 2023, pp. 389–416).

The need to develop competencies for overcoming difficulties associated with primary Islamic jurisprudential sources recorded a mean of 4.31 and a relative weight of 86.2%. Twenty-five students (86.2%) agreed with the item, including 13 (44.8%) who strongly agreed. Four students (13.8%) remained neutral, and no disagreement was reported. This finding indicates that students' challenges extend beyond recognising isolated vocabulary. They encompass the processing of classical syntactic structures, the interpretation of referential relationships, the differentiation between lexical and technical meanings, and the contextualisation of scholarly positions within their respective jurisprudential schools and structures of legal reasoning.

Reading instruction should therefore progress from literal comprehension to critical interpretation and systematic comparison across texts. Such progression is supported by academic literacies and disciplinary reading models, which emphasise the situated nature of textual interpretation and knowledge construction (Lea & Street, 1998, pp. 157–172; Lillis & Scott, 2007, pp. 5–32; Wingate, 2012, pp. 26–37; Hyland, 2008, pp. 543–562).

The need for general listening competence in lectures and Islamic studies classes recorded a mean of 4.28 and a relative weight of 85.5%. Twenty-five students (86.2%) agreed, of whom 12 (41.4%) strongly agreed, while four (13.8%) remained neutral. This result highlights students' need to process extended academic discourse characterised by specialised terminology, variable delivery rates, digressions, complex argumentation, and frequent references to authoritative sources. Listening research indicates that comprehension difficulties are influenced by lexical density, speech rate, processing demands, and the explicitness of relationships among ideas. Effective instruction should therefore integrate strategies for global comprehension, identifying supporting details, following argumentative structure, and taking accurate notes (Graham, 2006, pp. 165–182; Révész & Brunfaut,

2013, pp. 31–65; van Zeeland & Schmitt, 2013, pp. 457–471). Research conducted in an Arabic university context has also demonstrated the potential effectiveness of technology-supported instruction in developing listening competence (Aldhafiri, 2020, pp. 3577–3591).

Academic communication supporting students' future development obtained a mean of 4.24 and a relative weight of 84.8%. Twenty-four students (82.8%) agreed, four (13.8%) remained neutral, and only one respondent (3.4%) expressed disagreement—the sole instance of disagreement within the first domain. Accurate use of Islamic legal terminology recorded a mean of 4.21 and a relative weight of 84.1%, with 27 students (93.1%) agreeing and two (6.9%) remaining neutral.

The comparatively lower mean for terminological accuracy does not indicate a weak need. Rather, it reflects the concentration of responses in Agree (19 students; 65.5%) rather than Strongly agree (eight students; 27.6%). This distinction between the breadth of consensus and the intensity of endorsement is analytically important. It demonstrates that terminological precision is a widely shared requirement that should be operationalised through authentic tasks involving legal opinions, research, oral advocacy, and professional legal drafting (Cowling, 2007, pp. 426–442; Deutch, 2003, pp. 125–146; Abdul Ghani et al., 2019, pp. 2–8).

#### **4.2. Specialised Academic Language Competencies**

The second domain, comprising Items 9–12, recorded an overall mean of 4.28 out of 5 and a relative weight of 85.7%, while its average agreement rate reached 93.1%. Specialised academic writing ranked first in terms of the breadth of agreement: 28 students (96.6%) endorsed its importance, including ten (34.5%) who strongly agreed and 18 (62.1%) who agreed. Only one student (3.4%) remained neutral. The item recorded a mean of 4.31 and a relative weight of 86.2%.

Academic oral expression obtained the same mean and relative weight. Twenty-seven students (93.1%) agreed with its importance, including 11 (37.9%) who strongly agreed and 16 (55.2%) who agreed, while two remained neutral. These results establish the dual importance of producing research papers, professional reports, and academic articles and presenting and debating Islamic legal issues through coherent, systematically organised arguments. Research on AI-assisted writing suggests that generative tools can support textual organisation, linguistic accuracy, and formative feedback. However, such benefits depend on explicit training, sustained academic supervision, and the preservation of learners' intellectual agency and decision-making responsibility (Yan, 2023, pp. 13943–13967; Mahapatra, 2024, pp. 1–18; Escalante et al., 2023, pp. 1–20; Boudouaia et al., 2024, pp. 1509–1537; Tsai et al., 2024, pp. 22427–22445; Marzuki et al., 2023, pp. 1–17).

Specialised academic listening recorded a mean of 4.28 and a relative weight of 85.5%, with 27 students (93.1%) expressing agreement and two (6.9%) remaining neutral. Critical and analytical reading obtained a mean of 4.24 and a relative weight of 84.8%. Twenty-six students (89.7%) agreed, including ten (34.5%) who strongly agreed and 16 (55.2%) who agreed, while three students (10.3%) remained neutral.

Although critical reading ranked last within the second domain, its score remained high. This competence is fundamental to moving beyond the surface meaning of a text towards analysing its semantic and inferential structures and critically examining its assumptions, evidence, and conclusions. Research on AI-based language assistants indicates that such technologies can support listening, speaking, and interaction. Nevertheless, learning activities must be designed to produce meaningful cognitive and linguistic development rather than merely offer technical convenience (Tai & Chen, 2022a, pp. 433–460; Tai & Chen, 2022b, pp. 1224–1251; Jeon et al., 2023, pp. 1–18; Ji et al., 2022, pp. 48–63; Wang et al., 2024, pp. 1–13; Wiboolyasarin et al., 2024, pp. 1–18).

#### **4.3. Interpretation in the Context of Generative AI**

Across all 12 items, the overall mean was 4.31, with a relative weight of 86.3% and an average agreement rate of 90.2%. The findings thus reveal an integrated architecture of need encompassing receptive competencies—reading and listening—productive competencies—speaking and writing—specialised terminology, and academic and professional communication.

In generative AI-enhanced environments, these competencies do not become obsolete. On the contrary, they constitute essential prerequisites for evaluating machine-generated outputs, formulating precise prompts, comparing responses against authoritative sources, and identifying semantic, terminological, or argumentative deficiencies. International reviews have documented the potential benefits of generative AI for personalised learning, language practice, and formative feedback. At the same time, they have highlighted factual inaccuracy, excessive dependence, and threats to academic integrity (Kasneji et al., 2023, pp. 1–13; Tlili et al., 2023, pp. 1–25;

Lo et al., 2024, pp. 1–24; Chiu et al., 2023, pp. 1–21; Farrokhnia et al., 2024, pp. 460–474; Godwin-Jones, 2024, pp. 5–30).

Such caution is particularly important in Fiqh and Judiciary because the substantive validity of an answer depends on terminological precision, accurate attribution, contextual understanding, and coherent legal reasoning. Evaluations of AI models on Arabic legal tasks have revealed considerable variation across models and task types, demonstrating that apparent linguistic fluency does not guarantee factual accuracy or sound reasoning (Hijazi et al., 2024, pp. 225–249). Recent assessments of AI-generated reasoning in Islamic inheritance have similarly identified errors in interpreting relationships and applying relevant rules. In some cases, a model may even produce a correct conclusion while relying on an invalid or defective chain of reasoning (Bouchekef et al., 2025, pp. 246–257; AlDahoul & Zaki, 2025, pp. 861–866).

Arabic language education for Fiqh and Judiciary students should therefore be integrated with three transversal competencies: AI literacy, systematic source verification, and independent critical judgement. Generative AI should function pedagogically as a dialogic scaffold that supports inquiry, practice, and revision—not as a final or authoritative source of Islamic legal knowledge and judgement (Kohnke et al., 2023, pp. 537–550; Ulla et al., 2023, pp. 168–182; Yang & Kyun, 2022, pp. 180–210; Pan et al., 2025, pp. 1–13).

## **5. Conclusion, Implications, and Recommendations**

### **5.1. Principal Findings**

The study revealed a consistently high perceived need among Fiqh and Judiciary students for Arabic language competencies serving academic and professional purposes. Across the 12 items, the overall mean was 4.31 out of 5, with a relative weight of 86.3% and an aggregate agreement rate of 90.2%. Within the limits of the descriptive and self-reported data, these indicators demonstrate that Arabic is perceived not merely as a supplementary academic requirement but as a fundamental instrument for comprehending Islamic jurisprudential knowledge, constructing Sharia-based arguments, and producing effective academic and professional discourse.

The general and academic needs domain recorded a mean of 4.33 and a relative weight of 86.6%, while the specialised academic competencies domain obtained a mean of 4.28 and a relative weight of 85.7%, with its agreement rate reaching 93.1%. Speaking and participation in academic discussions, together with the recognition of Arabic as foundational to academic success, jointly ranked as the most highly rated needs, each recording a mean of 4.41. These were followed by reading Islamic jurisprudential texts and writing research papers and reports, both of which obtained a mean of 4.38 and an agreement rate of 93.1%. Specialised academic writing registered the highest agreement rate across all items (96.6%), underscoring the priority of enabling students to produce research papers, legal memoranda, and professional reports in precise, coherent, and academically rigorous Arabic.

Although the accurate use of Islamic legal terminology recorded the comparatively lowest mean (4.21), it nevertheless achieved an agreement rate of 93.1%. Its lower ranking should therefore not be interpreted as evidence of limited need; rather, it reflects variation in the intensity of respondents' endorsement. Standard deviations ranged from 0.54 to 0.83, indicating a notable degree of consistency across students' assessments.

Taken together, the findings demonstrate the interconnected nature of reading, listening, speaking, and writing, alongside terminological precision and critical analytical reading. These competencies acquire even greater significance in generative AI-enhanced environments because they enable students to formulate precise prompts, critically evaluate AI-generated outputs, detect hallucinations and algorithmic bias, and verify citations and chains of reasoning. Such competencies are particularly consequential in Islamic jurisprudential and judicial contexts, where inaccurate terminology, attribution, or reasoning may have substantial scholarly and professional implications.

The findings should nevertheless be interpreted cautiously. Their generalisability is constrained by the modest sample size, the single-institution setting, and the reliance on self-reported perceptions rather than direct performance measures.

### **5.2. Pedagogical and Curricular Recommendations**

The study recommends redesigning the Arabic language curriculum for Fiqh and Judiciary students around authentic academic and professional tasks. The proposed curriculum should integrate the analysis of Islamic jurisprudential and legal texts, lecture summarisation, structured debate, oral presentation, research writing, professional reporting, and the preparation of legal memoranda. Such an approach would align language instruction more closely with the communicative, cognitive, and professional practices students are expected to encounter during their studies and future careers.

Generative AI literacy should also be embedded systematically within the curriculum. Students should receive explicit training in Arabic prompt engineering, source and citation verification, transparent disclosure of AI use, data protection, and the critical revision of machine-generated texts. They should also learn to identify hallucinations, bias, defective argumentation, and inaccurate applications of Islamic legal principles. Generative AI should function as a dialogic and instructional scaffold, while final scholarly, ethical, and Islamic legal judgement must remain under informed human responsibility.

Performance-based assessments should be adopted to measure students' ability to apply Arabic competencies in authentic or realistically simulated situations. These assessments may include analysing a jurisprudential text, summarising a specialised lecture, presenting and defending a legal argument, drafting a legal memorandum, and critically evaluating an AI-generated response against authoritative sources.

Curriculum development should further be supported by sustained collaboration among Arabic-language instructors, Fiqh and Judiciary academics, judicial practitioners, and specialists in educational technology. Such interdisciplinary collaboration would ensure that course content, terminology, communicative tasks, and AI-related competencies remain responsive to evolving academic and professional requirements.

### **5.3. Directions for Future Research**

Future studies should employ multi-institutional designs and larger, more diverse samples to enhance the transferability and generalisability of the findings. Self-report questionnaires should be complemented by direct assessments of reading, listening, speaking, writing, terminological accuracy, and AI-output verification. Further research should also examine the instrument's psychometric properties, including its construct validity, reliability, and measurement invariance across relevant learner groups.

Finally, longitudinal and quasi-experimental studies are needed to evaluate the effects of the proposed curriculum on students' Arabic proficiency, academic achievement, professional preparedness, critical reasoning, and responsible use of generative AI. Such research would provide stronger evidence regarding whether a task-based, discipline-specific, and AI-integrated Arabic curriculum can produce sustained improvements in both linguistic competence and professional readiness.

## **References**

1. Abdul Ghani, M. T., Wan Daud, W. A. A., & Ramli, S. (2019). Arabic for specific purposes in Malaysia: A literature review. *Issues in Language Studies*, 8(1), 1–14. <https://doi.org/10.33736/ils.1293.2019>
2. AlDahoul, N., & Zaki, Y. (2025). NYUAD at QIAS shared task: Benchmarking the legal reasoning of LLMs in Arabic Islamic inheritance cases. In *Proceedings of the Third Arabic Natural Language Processing Conference: Shared Tasks* (pp. 861–866). Association for Computational Linguistics. <https://doi.org/10.18653/v1/2025.arabicnlp-sharedtasks.118>
3. Aldhafiri, M. D. (2020). The effectiveness of using interactive white boards in improving the Arabic listening skills of undergraduates majoring in Arabic language at Kuwaiti universities. *Education and Information Technologies*, 25(5), 3577–3591. <https://doi.org/10.1007/s10639-020-10107-5>
4. Belcher, D. D. (2006). English for specific purposes: Teaching to perceived needs and imagined futures in worlds of work, study, and everyday life. *TESOL Quarterly*, 40(1), 133–156. <https://doi.org/10.2307/40264514>
5. Borich, G. D. (1980). A needs assessment model for conducting follow-up studies. *Journal of Teacher Education*, 31(3), 39–42. <https://doi.org/10.1177/002248718003100310>
6. Boshier, S., & Smalkoski, K. (2002). From needs analysis to curriculum development: Designing a course in health-care communication for immigrant students in the USA. *English for Specific Purposes*, 21(1), 59–79. [https://doi.org/10.1016/S0889-4906\(01\)00002-3](https://doi.org/10.1016/S0889-4906(01)00002-3)
7. Boucekif, A., Rashwani, S., Sbahi, H., Gaben, S., Al Khatib, M., & Ghaly, M. (2025). Assessing large language models on Islamic legal reasoning: Evidence from inheritance law evaluation. In *Proceedings of the Third Arabic Natural Language Processing Conference* (pp. 246–257). Association for Computational Linguistics. <https://doi.org/10.18653/v1/2025.arabicnlp-main.20>
8. Boudouaia, A., Mouas, S., & Kouider, B. (2024). A study on ChatGPT-4 as an innovative approach to enhancing English as a foreign language writing learning. *Journal of Educational Computing Research*, 62(6), 1289–1317. <https://doi.org/10.1177/07356331241247465>

9. Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3), 328–352. <https://doi.org/10.1080/14780887.2020.1769238>
10. Brown, J. D. (2016). *Introducing needs analysis and English for specific purposes*. Routledge. <https://doi.org/10.4324/9781315671390>
11. Chiu, T. K. F., Xia, Q., Zhou, X., Chai, C. S., & Cheng, M. (2023). Systematic literature review on opportunities, challenges, and future research recommendations of artificial intelligence in education. *Computers and Education: Artificial Intelligence*, 4, Article 100118. <https://doi.org/10.1016/j.caeai.2022.100118>
12. Cowling, J. D. (2007). Needs analysis: Planning a syllabus for a series of intensive workplace courses at a leading Japanese company. *English for Specific Purposes*, 26(4), 426–442. <https://doi.org/10.1016/j.esp.2006.10.003>
13. Crosling, G., & Ward, I. (2002). Oral communication: The workplace needs and uses of business graduate employees. *English for Specific Purposes*, 21(1), 41–57. [https://doi.org/10.1016/S0889-4906\(00\)00031-4](https://doi.org/10.1016/S0889-4906(00)00031-4)
14. Derwing, T. M., & Munro, M. J. (2005). Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly*, 39(3), 379–397. <https://doi.org/10.2307/3588486>
15. Deutch, Y. (2003). Needs analysis for academic legal English courses in Israel: A model of setting priorities. *Journal of English for Academic Purposes*, 2(2), 125–146. [https://doi.org/10.1016/S1475-1585\(03\)00013-4](https://doi.org/10.1016/S1475-1585(03)00013-4)
16. Dunn, T. J., Baguley, T., & Brunsden, V. (2014). From alpha to omega: A practical solution to the pervasive problem of internal consistency estimation. *British Journal of Psychology*, 105(3), 399–412. <https://doi.org/10.1111/bjop.12046>
17. Escalante, J., Pack, A., & Barrett, A. (2023). AI-generated feedback on writing: Insights into efficacy and ENL student preference. *International Journal of Educational Technology in Higher Education*, 20, Article 57. <https://doi.org/10.1186/s41239-023-00425-2>
18. Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2024). A SWOT analysis of ChatGPT: Implications for educational practice and research. *Innovations in Education and Teaching International*, 61(3), 460–474. <https://doi.org/10.1080/14703297.2023.2195846>
19. Faruq, U. (2023). Ta'lim al-Qira'ah li al-Nathiqin bi Ghair al-'Arabiyyah bi al-Nushush al-Ashliyyah al-Muhtawiyah 'Ala al-Tsaqafah al-'Arabiyyah. *Arabiyatuna: Jurnal Bahasa Arab*, 7(2), 389–416. <https://doi.org/10.29240/jba.v7i2.6621>
20. Flowerdew, L. (2005). Integrating traditional and critical approaches to syllabus design: The 'what', the 'how' and the 'why?'. *Journal of English for Academic Purposes*, 4(2), 135–147. <https://doi.org/10.1016/j.jeap.2004.09.001>
21. Godwin-Jones, R. (2024). Distributed agency in second language learning and teaching through generative AI. *Language Learning & Technology*, 28(2), 5–31. <https://doi.org/10.64152/10125/73570>
22. Golfetto, M. A. (2020). Towards Arabic for specific purposes: A survey of students majoring in Arabic holding professional expectations. *Ibérica*, 39, 371–398. <https://doi.org/10.17398/2340-2784.39.371>
23. Graham, S. (2006). Listening comprehension: The learners' perspective. *System*, 34(2), 165–182. <https://doi.org/10.1016/j.system.2005.11.001>
24. Groves, R. M. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly*, 70(5), 646–675. <https://doi.org/10.1093/poq/nfl033>
25. Hijazi, F., AlHarbi, S., AlHussein, A., Abu Shairah, H., AlZahrani, R., AlShamlan, H., Knio, O., & Turkiyyah, G. (2024). ArabLegalEval: A multitask benchmark for assessing Arabic legal knowledge in large language models. In *Proceedings of the Second Arabic Natural Language Processing Conference* (pp. 225–249). Association for Computational Linguistics. <https://doi.org/10.18653/v1/2024.arabicnlp-1.20>
26. Hyland, K. (2002). Specificity revisited: How far should we go now? *English for Specific Purposes*, 21(4), 385–395. [https://doi.org/10.1016/S0889-4906\(01\)00028-X](https://doi.org/10.1016/S0889-4906(01)00028-X)
27. Hyland, K. (2008). Genre and academic writing in the disciplines. *Language Teaching*, 41(4), 543–562. <https://doi.org/10.1017/S0261444808005235>
28. Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods*, 18(1), 3–20. <https://doi.org/10.1177/1525822X05282260>
29. Jeon, J., Lee, S., & Choi, S. (2024). A systematic review of research on speech-recognition chatbots for language learning: Implications for future directions in the era of large language models. *Interactive Learning Environments*, 32(8), 4613–4631. <https://doi.org/10.1080/10494820.2023.2204343>
30. Ji, H., Han, I., & Ko, Y. (2023). A systematic review of conversational AI in language education: Focusing on the collaboration with human teachers. *Journal of Research on Technology in Education*, 55(1), 48–63. <https://doi.org/10.1080/15391523.2022.2142873>

31. Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., . . . Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, Article 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
32. Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning. *RELC Journal*, 54(2), 537–550. <https://doi.org/10.1177/00336882231162868>
33. Lea, M. R., & Street, B. V. (1998). Student writing in higher education: An academic literacies approach. *Studies in Higher Education*, 23(2), 157–172. <https://doi.org/10.1080/03075079812331380364>
34. Lillis, T., & Scott, M. (2007). Defining academic literacies research: Issues of epistemology, ideology and strategy. *Journal of Applied Linguistics*, 4(1), 5–32. <https://doi.org/10.1558/japl.v4i1.5>
35. Lo, C. K., Yu, P. L. H., Xu, S., Ng, D. T. K., & Jong, M. S.-Y. (2024). Exploring the application of ChatGPT in ESL/EFL education and related research issues: A systematic review of empirical studies. *Smart Learning Environments*, 11, Article 50. <https://doi.org/10.1186/s40561-024-00342-5>
36. Long, M. H. (2005). Methodological issues in learner needs analysis. In M. H. Long (Ed.), *Second language needs analysis* (pp. 19–76). Cambridge University Press. <https://doi.org/10.1017/CBO9780511667299.002>
37. Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: A mixed methods intervention study. *Smart Learning Environments*, 11, Article 9. <https://doi.org/10.1186/s40561-024-00295-9>
38. Marzuki, Widiati, U., Rusdin, D., Darwin, & Indrawati, I. (2023). The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective. *Cogent Education*, 10(2), Article 2236469. <https://doi.org/10.1080/2331186X.2023.2236469>
39. Mazdayasna, G., & Tahririan, M. H. (2008). Developing a profile of the ESP needs of Iranian students: The case of students of nursing and midwifery. *Journal of English for Academic Purposes*, 7(4), 277–289. <https://doi.org/10.1016/j.jeap.2008.10.008>
40. Miao, F., & Holmes, W. (2023). Guidance for generative AI in education and research. UNESCO. UNESCO Digital Library
41. Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualizing AI literacy: An exploratory review. *Computers and Education: Artificial Intelligence*, 2, Article 100041. <https://doi.org/10.1016/j.caeai.2021.100041>
42. Pan, M., Guo, K., & Lai, C. (2025). Using artificial intelligence chatbots to support English-as-a-foreign language students' self-regulated reading. *RELC Journal*, 56(3), 781–793. <https://doi.org/10.1177/00336882241264030>
43. Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health*, 30(4), 459–467. <https://doi.org/10.1002/nur.20199>
44. Révész, A., & Brunfaut, T. (2013). Text characteristics of task input and difficulty in second language listening comprehension. *Studies in Second Language Acquisition*, 35(1), 31–65. <https://doi.org/10.1017/S0272263112000678>
45. Schmitt, N., Jiang, X., & Grabe, W. (2011). The percentage of words known in a text and reading comprehension. *The Modern Language Journal*, 95(1), 26–43. <https://doi.org/10.1111/j.1540-4781.2011.01146.x>
46. Serafini, E. J., Lake, J. B., & Long, M. H. (2015). Needs analysis for specialized learner populations: Essential methodological improvements. *English for Specific Purposes*, 40, 11–26. <https://doi.org/10.1016/j.esp.2015.05.002>
47. Tai, T.-Y., & Chen, H. H.-J. (2024a). The impact of intelligent personal assistants on adolescent EFL learners' listening comprehension. *Computer Assisted Language Learning*, 37(3), 433–460. <https://doi.org/10.1080/09588221.2022.2040536>
48. Tai, T.-Y., & Chen, H. H.-J. (2024b). The impact of intelligent personal assistants on adolescent EFL learners' speaking proficiency. *Computer Assisted Language Learning*, 37(5–6), 1224–1251. <https://doi.org/10.1080/09588221.2022.2070219>
49. Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments*, 10, Article 15. <https://doi.org/10.1186/s40561-023-00237-x>

50. Tsai, C.-Y., Lin, Y.-T., & Brown, I. K. (2024). Impacts of ChatGPT-assisted writing for EFL English majors: Feasibility and challenges. *Education and Information Technologies*, 29(17), 22427–22445. <https://doi.org/10.1007/s10639-024-12722-y>
51. Ulla, M. B., Perales, W. F., & Busbus, S. O. (2023). 'To generate or stop generating response': Exploring EFL teachers' perspectives on ChatGPT in English language teaching in Thailand. *Learning: Research and Practice*, 9(2), 168–182. <https://doi.org/10.1080/23735082.2023.2257252>
52. Van Zeeland, H., & Schmitt, N. (2013). Lexical coverage in L1 and L2 listening comprehension: The same or different from reading comprehension? *Applied Linguistics*, 34(4), 457–479. <https://doi.org/10.1093/applin/ams074>
53. Wang, C., Zou, B., Du, Y., & Wang, Z. (2024). The impact of different conversational generative AI chatbots on EFL learners: An analysis of willingness to communicate, foreign language speaking anxiety, and self-perceived communicative competence. *System*, 127, Article 103533. <https://doi.org/10.1016/j.system.2024.103533>
54. Wiboolyasarin, W., Wiboolyasarin, K., Tiranant, P., Boonyakitanont, P., & Jinowat, N. (2024). Designing chatbots in language classrooms: An empirical investigation from user learning experience. *Smart Learning Environments*, 11, Article 32. <https://doi.org/10.1186/s40561-024-00319-4>
55. Wingate, U. (2012). Using academic literacies and genre-based models for academic writing instruction: A 'literacy' journey. *Journal of English for Academic Purposes*, 11(1), 26–37. <https://doi.org/10.1016/j.jeap.2011.11.006>
56. Yan, D. (2023). Impact of ChatGPT on learners in a L2 writing practicum: An exploratory investigation. *Education and Information Technologies*, 28(11), 13943–13967. <https://doi.org/10.1007/s10639-023-11742-4>
57. Yang, H., & Kyun, S. (2022). The current research trend of artificial intelligence in language learning: A systematic empirical literature review from an activity theory perspective. *Australasian Journal of Educational Technology*, 38(5), 180–210. <https://doi.org/10.14742/ajet.7492>