

Linguistic Interference and Structural Complexity in Arabic as a Second Language: Evidence from Turkish Learners

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Abstract

This explanatory sequential mixed-methods study investigated the linguistic challenges faced by Turkish learners of Arabic at the Department of Arabic Language and Rhetoric, Bursa Uludağ University, Turkey, in acquiring Arabic as a second language. Quantitative data from 52 students, collected via Likert-scale surveys, revealed varying levels of difficulty across four linguistic domains. Phonology (mean = 2.64, 52.85%) and morphology (mean = 2.77, 55.46%) showed moderate difficulty, while syntax (65.67%) and semantics (68.40%) demonstrated greater difficulty. Qualitative data from 20 students identified key obstacles, including phonological interference with emphatic consonants, morphological challenges in verb conjugation, syntactic interference from the Turkish L1, and semantic ambiguity in polysemous terms. The findings suggest that L1 transfer, structural complexity, and prior learning experiences have a significant impact on the acquisition of Arabic. The study concludes by proposing targeted educational interventions that leverage students' strengths in syntax and semantics while providing greater emphasis on the challenging phonological and morphological aspects.

Keywords: Linguistics, phonology, semantics, morphology, syntax

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Introduction

Arabic is one of the international languages with a significant role in the domains of science, religion, and diplomacy (Rafat et al., 2023). Arabic, the language of the Qur'an, is studied by millions of students worldwide, in addition to those in the Arab world (S. Almelhes, 2024). Arabic is studied for intellectual, communicative, and cultural purposes, in addition to its religious significance (Amar, 2025). Depending on the social environment and the demands of the students, Arabic is taught in various educational institutions using a range of methods, both as a foreign language and as a second language (Madjid, 2023).

Many non-Arab nations, such as Turkey, Indonesia, Malaysia, Pakistan, and even European countries, have made Arabic a significant focus in tandem with the growing interest in Islamic studies and international relations (Rohmana, 2023). The phonological, morphological, syntactic, and semantic components of Arabic's linguistic system are acknowledged to be complicated and unique, setting it apart from many other languages (Suparno et al., 2022). Arabic is an intriguing yet challenging language for non-native learners to learn due to its rich structure, which includes its root words (*jidr*), word formation patterns (*wazan*), and distinctive usage of grammatical gender (S. A. Almelhes & Alsaïari, 2024).

The process of learning Arabic often presents linguistic challenges for non-Arabic learners, including variations in dialect, sentence structure, and phonetic systems (Nida Husnia et al., 2025). For instance, several Arabic phrases have been incorporated into contemporary Turkish due to historical and cultural exchanges between the Arab and Turkish worlds (Al-Athwary, 2022). However, due to variations in pronunciation, meaning, and usage, these lexical similarities do not necessarily facilitate learning (Alhasan, 2023). To understand how language interaction and linguistic background influence the success of learning Arabic, it is essential to examine the linguistic difficulties faced by non—Arabic learners, particularly in Turkey (Hastang & R., 2023). There are cultural challenges associated with incorporating Arabic into the Turkish educational system. Because there is no curriculum specifically designed for students transitioning from Turkish to Arabic, Turkey's educational system often struggles to meet the unique needs of Arabic learners (Çapan, 2021).

Furthermore, pronunciation and expressive usage of Arabic might cause anxiety in Turkish learners, which can impede their learning process (Tekin et al., 2022). An understudied topic in applied linguistics and second language acquisition (SLA) is the relationship between learning Arabic and its consequences for Turkish learners. Research on how Turkish learners are engaged with Arabic as a second language and the difficulties they encounter remains scarce, despite academics' recognition of Arabic's linguistic and historical impact on Turkish (S. Almelhes, 2024). The transfer of Turkish grammatical rules to Arabic is another significant obstacle that can lead to frequent mistakes. When attempting to communicate in Arabic, Turkish learners may unintentionally utilise their native grammatical structures, which can lead to errors, including improper verb placement and noun case usage (Tanyer & Deniz, 2022). Certain grammatical construction errors are frequent, and Turkish learners particularly struggle with noun-adjective agreement and article usage.

Studies on second language acquisition have placed considerable emphasis on the linguistic difficulties that Turkish learners face when learning Arabic. Significant challenges are caused by the disparate phonetic inventories of the two languages, as prior studies have repeatedly demonstrated. According to Nulahan & Rose, (2024) the source, there is systematic linguistic interference, as Arabic phonemes such as ق (qaf) and ع (ayn) have no acoustic counterparts in the Turkish phonological system. Furthermore, despite their critical significance in lexical meaning variations, elements of Arabic prosody, such as the distinction between long and short vowels, are often overlooked in traditional education (Fauzi et al., 2025). Arguing that the absence of these suprasegmental characteristics in Turkish results in errors in perception and speech production.

The formulation of this study problem focuses on three essential elements: descriptive, explanatory, and integrative, based on the recognition of the complexity of linguistic issues in learning Arabic for Turkish learners. First, descriptively, Turkish students at Bursa Uludağ University lack a thorough understanding of the degree of difficulty of each linguistic aspect: phonology, morphology, syntax, and semantics. There is currently a lack of empirical information regarding the most challenging features and the differences in difficulty according to learner profiles. Second, there hasn't been a thorough investigation of the underlying causes of these difficulties. The reasons why negative transfer from Turkish occurs in phonological and morphosyntactic elements, as well as how pedagogical

and psychological factors, such as traditional teaching techniques and language anxiety, exacerbate these difficulties, have not been adequately demonstrated by previous investigations. Third, there is currently no efficient learning model that considers the interconnectedness of these four linguistic elements as well as the sociocultural context of learning Arabic in Turkey.

Based on the identification of these gaps, this study aims to address the following question: How can an integrative learning method define, explain, and overcome the linguistic obstacles Turkish students at Bursa Uludağ University face when learning Arabic? To address the current research gap, this study employed a mixed-methods explanatory sequential design. This method provides a comprehensive picture of the Arabic language learning experience among Turkish students by enabling a thorough mapping of linguistic difficulties through quantitative data and an in-depth investigation of the underlying causes through qualitative data.

Methodology

This study employed a mixed-methods explanatory sequential design, which involves collecting and analysing quantitative data first, followed by qualitative research to explain the quantitative results (Creswell, 2024). This style was selected because it may offer a thorough comprehension by combining detailed narrative material with generic numerical data. The study was carried out at Bursa Uludağ University's Faculty of Theology in Bursa, Turkey. First-year students participated in the study during the 2024–2025 academic year. This technique involves the use of questionnaires distributed via Google Forms, as well as observation and interviews with students. These questionnaires were sent randomly to students enrolled in first-year classes during the 2024/2025 academic year. The observation period will run from March to May 2025 during this study.

A total of 52 students from Bursa Uludağ University participated in the quantitative phase of this study, which involved interviews using a standardized questionnaire with a Likert scale. The 5-point Likert scale employed in this study was carefully designed to transform subjective responses into quantifiable data for statistical analysis, adhering to the methods outlined Mohd Rushdi et al., (2025).

Table 1. Likert Scale for Questionnaire Measurement

Score	Lever of Agreement	Category	Interpretation
1	Strongly Disagree (SD)	Very Negative	Respondent strongly disagrees with the statement
2	Disagree (D)	Negative	Respondent disagrees with the statement
3	Neutral (N)	Neutral	Respondent has no clear opinion
4	Agree (A)	Positive	Respondent agrees with the statement
5	Strongly Agree (SA)	Very Positive	Respondent strongly agrees with the statement

This scale employs a range of values from 1 to 5, signifying a spectrum of perceptions from extremely negative to extremely positive, where a value of 1 denotes the utmost rejection ('Strongly Disagree') and a value of 5 indicates the utmost agreement ('Strongly Agree'). This questionnaire has undergone a reliability test, demonstrating an adequate Cronbach's alpha coefficient, in accordance with prior studies that effectively utilized similar questionnaires. The gathered quantitative data were analysed through descriptive statistics to discern tendencies in language difficulties frequently encountered by students.

Table 2. Interpretation Categories of Learning Difficulty Levels

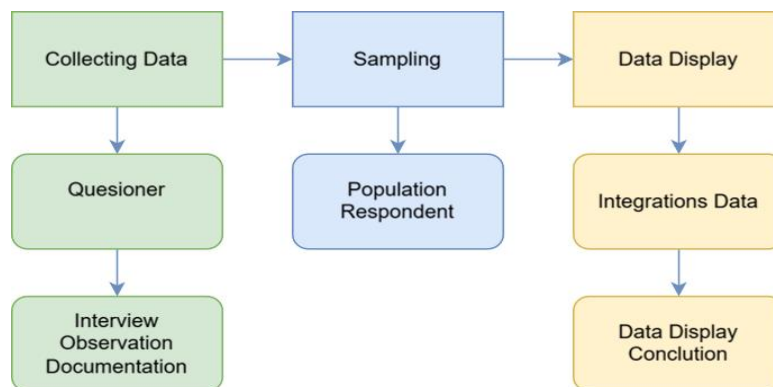
Category	Percentage Range	Description
Very low	1.00-1.80 20.0%-36.0%	Almost no difficulties, very good mastery of the material
Low	1.81-2.60 36.1%-52.0%	Slight difficulties, fairly good understanding of the material
Moderate	2.61-3.40 52.1%-68.0%	Reasonable difficulties, understanding of the material within normal limits
High	3.41-4.20 68.1%-84.0%	Significant difficulties, limited understanding of the material
Very High	4.21-5.00 84.1%-100%	Very great difficulties, very limited mastery of the material

Subsequent data analysis employed a five-tier classification predicated on value ranges and percentages: This classification refers to the psychometric measurement standards established (Mohd Rushdi et al., 2025) for the creation and validation of research scales, specifically modified to assess students' linguistic proficiency in the phonological, morphological, syntactic, and semantic dimensions of the Arabic language. Twenty students were purposefully chosen to participate in semi-structured interviews and observations as part of the qualitative phase. Key themes related to the experience and difficulties of learning Arabic were identified by thematic analysis, based on Braun and Clarke's framework for examining the interview data. It has been demonstrated that this analytical

method is effective in exploring the perspectives and experiences of language learners across various settings (Hastang & R., 2023).

Five systematic methodological stages were used to conduct this investigation. The first step was the drafting and sampling phase, which involved creating a theoretical framework and selecting a representative sample using straightforward saturated sampling methods to ensure the study's external validity. Second, the collection of instruments was accomplished by creating semi-structured interview instructions and a structured questionnaire with a 5-point Likert scale that specialists had validated. Third, data collection was conducted currently by administering questionnaires to 52 respondents and conducting in-depth interviews with 20 selected participants. Fourth, descriptive-inferential statistical analysis, utilizing Excel software, was employed to assess and evaluate quantitative data. A thematic analysis technique was applied to analyse qualitative data. Fifth, the data were presented using narrative excerpts, statistical tables, and thematic matrices, which were combined to offer a thorough understanding of the phenomenon under study.

Figure 1. Research Completion Steps



Three integrated methodological stages were used to finish this study. First, to achieve data completeness, a triangulation of data collection methods was used, including structured questionnaires, semi-structured interviews, participant observation, and documentation studies. Second, to ensure sample representativeness, the research population was identified, and respondents were selected using a combination of purposive sampling

approaches for qualitative data and simple random sampling for quantitative data. Third, the process of integrating mixed-methods data through joint display analysis and thorough presentation of conclusions, backed by statistical and thematic data visualization, was incorporated into data display, producing a comprehensive and reliable picture.

Literature Review

According to research Asad (2025), morphological and syntactic errors may result from interference from learners' first language (L1). These mistakes can be found in areas such as agreement and the correct use of *i'rāb* norms. These results suggest that learners may struggle not only with the formal rules of Arabic grammar but also with the concept of inflection, which is less prominent in their native language.

The intricacy of Arabic's *taṣrīf* (morphological inflection) and *i'rāb* (syntactic inflection) systems has proven to be a significant structural barrier in the field of morphosyntax. According to Baharun et al., (2025), non-native learners frequently make mistakes when using *i'rāb* as a technique for indicating grammatical situations, which is crucial for meaning creation. Negative interference from the mother tongue leads to fossilisation errors in the application of *taṣrīf* patterns, especially in verb conjugation and nominal derivation, according to longitudinal research by Abdelmohsen, (2022).

Similar results were observed Rahmawati et al., (2022) in the context of religious education, where errors in studying religious texts were attributed to a lack of conceptual grasp of *i'rāb*. These linguistic difficulties are hierarchical and interrelated, as indicated by the convergence of empirical data from numerous investigations. Thomure et al., (2022) It was found that phonological challenges often precede morphosyntactic mistakes, resulting in a cascading effect during language learning. Long-term learning motivation is adversely correlated with the cognitive load imposed by the complexity of the *taṣrīf* and *i'rāb* systems (Krieglstein et al., 2021). These combined results underscore the importance of developing an Arabic-language curriculum for Turkish learners, using an integrative educational approach that considers linguistic interdependence.

Meanwhile, traditional teaching methods, centered on the mechanical memorization of vocabulary and grammatical norms, continue

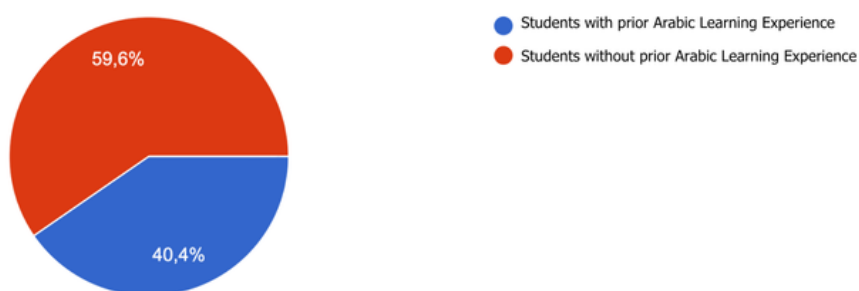
to dominate pedagogical practice in Turkey, according to research conducted by Ortactepe Hart & Aydınli, (2023) existing studies. Frequently, these studies focus more on general educational trends than on specific learning experiences or assessments of instructional strategies designed for Turkish students. This method is infrequently employed in current studies on teaching Arabic to Turkish Learners, although a comparison of Arabic and Turkish grammatical structures could offer insights that enhance teaching strategies.

Result and Discussion

Student Survey Results

Analysis demonstrates that the achievement gap among pupils is substantially influenced by disparities in the quantity and quality of prior linguistic exposure, with those possessing a structured educational background exhibiting greater flexibility. Field findings indicate that disparities in pre-university educational backgrounds and the degree of exposure to Arabic are critical factors in the development of students' linguistic competence. The findings are substantiated by questionnaire data indicating substantial disparities in Arabic language learning backgrounds at the pre-university level:

Figure 2. Percentage Distribution of Pre-University Arabic learning Experience



According to the findings of a questionnaire administered to 52 participants, 21 respondents (40.4%) indicated prior study of Arabic before university, whereas 31 respondents (59.6%) reported no prior study. The research shows that most student respondents lacked prior experience with learning Arabic before enrolling in university. This scenario suggests that most students began their Arabic studies at a fundamental level, adapting to the Arabic phonetic system, syntax, and semantics, which is more challenging for them than for those with prior experience in the language. The results demonstrate that prior learning experiences can affect comprehension of linguistic elements, particularly phonology and morphology, which typically require incremental exposure and repetition.

The data obtained from the structured questionnaire indicates systemic patterns of difficulty across four primary linguistic categories. The following are the principal findings discerned by statistical analysis of the respondents' responses:

Table 3. Distribution of the Percentage of Difficulties in learning Arabic

Category	Mean	Percent
Strong Agree	0	0 %
Agree	8	15 %
Neutral	26	50 %
Disagree	17	33 %
Strong Disagree	1	2 %
TOTAL	52	100 %

The distribution table indicates that of the 52 respondents, 26 (50%) fell into the Neutral (N) category, with a score range of 51–68, indicating that the majority exhibited an average level of ability or attitude for the measured aspect. Seventeen respondents (33%) fell into the Disagree (D) group within the 37–52 interval, indicating that one-third of the total respondents exhibited a comparatively low degree of achievement. Additionally, eight respondents (15%) fell within the Agree (A) category, with a range of 69–84, signifying a minor cohort that exhibited favourable outcomes or perceptions regarding the assessed issues. Simultaneously, merely one respondent (2%) was classified in the Strongly Disagree (SD) category, while no respondents (0%) attained the Strongly Agree (SA) category within the interval of 85–100. Overall, these findings demonstrate that most respondents occupied a neutral stance, although the degree of strong agreement remained comparatively low. It can thus be assumed that

the measured variable has not yet attained an optimal level of achievement or acceptance among responders.

Table 4. Result of the Analysis of Average Score and Percentages of Linguistic Competence

Linguistic Scope	Mean	%	Category
Phonology	2,64	52,85	Moderate
Morphology	2,77	55,46	Moderate
Syntax	3,28	65,67	High
Semantics	3,42	68,40	High

The data analysis results on four language aspects—phonology, morphology, syntax, and semantics—yielded differing average scores for each category. The phonological component achieved an average score of 2.64, corresponding to 52.85%, while morphology attained a score of 2.77, equating to 55.46%; both fall within the moderate category, signifying that students continue to encounter challenges in articulating Arabic phonemes, identifying letters, and comprehending word formation patterns (*wazan*) and root words (*jidr*). The syntactic component achieved an average score of 3.28, equivalent to 65.67%, while semantics attained a score of 3.42, or 68.40%. Both scores fall within the high category, suggesting that students exhibit greater proficiency in comprehending sentence structure, applying *i'rāb* signs, and understanding the meanings of words within their contextual framework in Arabic. Overall, these findings suggest that students exhibit greater proficiency in syntax and semantics. In contrast, phonology and morphology require enhancement through education

focused on mastering sounds and word structure as foundational elements of Arabic language skills.

Student Interview Result

In addition to the quantitative data collected, comprehensive interviews with students provide a profound qualitative insight into their experiences with linguistic obstacles. The narratives obtained from semi-structured interviews illuminated both the challenges encountered and the techniques and adaptive mechanisms that pupils formulated. The following are the principal findings discerned through theme analysis of the interview outcomes:

Table 5. Summary of Interview Data

Scope	Question	Opinion
Phonology	What is your experience in learning the pronunciation of letters that do not exist in your mother tongue, such as ح, خ, ع, ض?	<p>(8) I am still trying, and I still have difficulty when reading.</p> <p>(6) Of course, I found it difficult when I first learned it, but now I have improved.</p> <p>(6) It's not really that difficult, because I've already learned it, since I've taken a course in the Quran.</p>
Morphology	Do you have difficulty understanding verb conjugations in Arabic (e.g., the transition from	(7) I have difficulty changing words that I don't know.

	past tense to present tense)?	(9) At first, I found it difficult, but now I can do it. (4) No, I don't find it too difficult, because I'm used to it.
Syntax	Can you describe the difficulties you experience when constructing Arabic sentences that follow the <i>nahwu</i> structure (subject, predicate, and object order)?	(9) I find it difficult because Turkish and Arabic are different in pronunciation. (5) Sometimes I think like Turkish, so I often get confused. (6) Short sentences are very easy, but long sentences are very difficult.
Semantics	Have you ever had difficulty understanding the meaning of words that have multiple meanings in Arabic?	(11) Yes, of course, I have difficulty because some sentences are very similar to each other, so I feel confused and have difficulty. (7) Sometimes I don't have any difficulty. (2) In general, some Arabic vocabulary is similar to Turkish in terms of name, so that is not difficult.

An examination of respondents' feedback on linguistic issues in learning Arabic revealed diverse difficulties across the four language characteristics. At the phonological level, most participants (8 out of 20) acknowledged their ongoing challenges in articulating Arabic phonemes such as ع, ح, خ, and ض, which are absent in the Turkish phonological system. Conversely, six respondents reported improvements in their pronunciation skills as a result of their learning experiences, while another six indicated relative ease due to their prior exposure to Qur'anic studies. Within the morphological domain, seven respondents reported challenges in verb conjugation, particularly for unfamiliar terms. Conversely, nine respondents demonstrated a positive learning trajectory, overcoming initial difficulties through familiarization, while four respondents faced no substantial obstacles due to prior familiarity with these patterns.

Nine respondents encountered structural interference stemming from discrepancies between Turkish and Arabic grammar in sentence construction, as per the rules of *nahwu*. Five respondents acknowledged occasionally becoming entangled in Turkish grammatical patterns, while six respondents differentiated between the difficulty levels of short, simple sentences and long, complex sentences. At the semantic level, eleven respondents encountered ambiguity in interpreting polysemous words and struggled to differentiate between similar sentence structures. Seven respondents experienced difficulties only occasionally, and two respondents leveraged the lexical similarities between Arabic and Turkish to aid in semantic comprehension. These findings confirm that the challenges faced by Turkish learners in learning Arabic are multifaceted and influenced by linguistic transfer, structural complexity, and prior educational experience.

Integration Findings Results

The amalgamation of these two datasets not only corroborates the identified trends but also provides a deeper understanding of the mechanisms underlying the linguistic difficulties students encounter. The subsequent

results of the integration elucidate the dynamic interplay between survey data and interview narratives within the framework of Arabic language acquisition.

Table 6. Integration of Quantitative and Qualitative Findings: Linguistic Challenges in Arabic Language Learning

Scope	Quantitative findings	Qualitative findings	Integrated interpretation
Phonology	Mean: 2.64 Percent: 52.85% Category: Moderate	(8) Continued difficulty pronouncing ع, خ, ح, ض (6) Improvement with experience (6) Relatively easy due to background in learning the Qur'an	Phonological competence was at a moderate level, with the main difficulty being the negative transfer of the sound system from Turkish. However, previous learning experiences (particularly recitation) were a significant moderating factor.

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Morphology	Mean: 2.77 Percent: 55.46% Category: moderat	(7) Difficulty conjugating verbs for new words (9) Positive learning curve through 60amiliarization (4) Not difficult because already familiar	Morphological mastery is gradual and highly dependent on exposure frequency and vocabulary mastery. Pattern-based learning and repetition are effective for this aspect.
Syntax	Mean: 3.28 Percent: 65.67% Category: High	(9) Turkish-Arabic structural interference (5) Trapped in the grammatical mindset of their mother tongue (6) Short sentences are easy, long sentences are difficult	Despite being high-level, syntactic challenges are complex. Cross-language interference and structural complexity are major obstacles to the production of complex sentences.

Semantics	Mean: 3.42 Percent: 68.40% Category: High	(11) Ambiguity due to polysemy and similar sentences (7) Occasionally experienced difficulties (2) Easy due to lexical similarities between Arabic and Turkish	The semantic aspect is the most important, supported by lexical similarities between languages. However, polysemy and nuances of meaning remain a challenge for the majority of learners.
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This study, through the integration of quantitative and qualitative analysis, identifies various patterns of linguistic competence among Turkish-speaking learners of Arabic. The phonological and morphological dimensions were categorized as moderate, with primary challenges arising from the negative transfer of the Turkish phonetic system and complexities in verb conjugation; however, prior exposure to Qur'anic studies served as a notable moderating influence. Simultaneously, the syntactic and semantic dimensions achieved a high level of classification, though they encountered intricate difficulties stemming from cross-linguistic structural interference and polysemy-induced ambiguity. The findings indicate that learners' linguistic competence is characterized by greater proficiency in receptive elements (syntax and semantics) than in productive elements (phonology and morphology), with influences primarily stemming from linguistic transfer, exposure frequency, and prior learning experiences.

Therefore, this research supports the establishment of a language learning centre at the institutional level, providing tailored linguistic consultation services and peer tutoring initiatives. To share best practices

and develop research-based teaching methods, particularly to address language interference from Turkish to Arabic, it is essential to strengthen the teacher learning community.

The comprehensive implementation of these strategies requires a strong institutional commitment and adequate resource allocation, along with continuous monitoring and evaluation, to ensure measurable and enduring improvements in the quality of Arabic language education, while laying the groundwork for more extensive future research (Aminuzal et al., 2024). A continuous evaluation system utilizing portfolio assessment and periodic diagnostic examinations is essential for monitoring progress, facilitating timely intervention, and fostering student autonomy (Shaalán, 2023).

Current pedagogical research highlights the efficacy of technology-enhanced learning strategies in addressing the specific obstacles encountered by Turkish Arabic learners. Research by Hidayanto highlights the utility of rule-based technological interventions for syntactic and morphological analysis. Their study demonstrates that such systems can improve Arabic language acquisition by providing instant feedback on grammatical errors, thereby helping learners engage more effectively with Arabic morphological structures (Hidayanto et al., 2023).

This immediate feedback loop reinforces correct usage and promotes a deeper understanding of Arabic grammar, especially critical given the complexities of the language's root-and-pattern morphology. The integration of these technological advancements with project-based learning and collaborative work fosters a more engaging and successful learning experience that simultaneously addresses the linguistic, social, and psychological aspects of Arabic language acquisition.

This study advocates incorporating technology into education through the creation of mobile applications equipped with speech recognition for pronunciation enhancement and virtual reality platforms for contextual conversational practice, which have demonstrated efficacy in advancing phonological and morphological awareness. The integration of technology and new teaching methods is crucial to improving the Arabic

language-learning experience. The use of modern methodologies, such as artificial intelligence, can enhance the learning experience by providing visual representations that help overcome comprehension challenges, particularly in speaking proficiency (Suyu et al., 2024).

Several limitations to this study need to be acknowledged. The findings are only applicable to the Faculty of Theology at Bursa Uludağ University due to the uniform characteristics of the population. The short observation period of three months made it impossible to see how language skills would improve over time. This study was methodologically limited in its data triangulation, as it comprised participants exclusively from a single institution. The purposive sampling strategy in the qualitative phase limited the sample's representativeness, while the quantitative data analysis was restricted to descriptive statistics, excluding any inferential elements. The study's focus on four essential language components overlooks the pragmatic and sociolinguistic factors vital to communicative competence. Practical limitations include reliance on self-reported data, which may be influenced by response bias, and time constraints during interviews, which impede a comprehensive examination of qualitative subjects.

Conclusion

This study, grounded in both quantitative and qualitative analysis, concludes that Turkish learners encounter intricate challenges in Arabic language acquisition, characterized by disparate linguistic competency profiles. Syntactic (65.67%) and semantic (68.40%) competencies are categorized as high, whereas phonological (52.85%) and morphological (55.46%) competencies are deemed moderate. This indicates a predominant strength in receptive skills, while productive skills necessitate further focus. Variations in pre-university educational backgrounds and the intensity of Arabic exposure, along with structural interference from Turkish's agglutinative nature, which affects Arabic's root-based system, are identified as primary contributors to morphological complexity.

Consequently, it advocates for a pedagogical strategy that includes the creation of a differentiated curriculum, the incorporation of technology through speech recognition mobile applications and virtual reality platforms, the establishment of language learning centres, and the implementation of a continuous evaluation system based on portfolio assessment. This study is constrained by limitations regarding the generalizability of findings, the duration of observation, and the breadth of linguistic aspects, necessitating further investigation through longitudinal studies, an expansion of research on pragmatic and sociolinguistic dimensions, comparative analyses between institutions, and the creation of adaptive learning models utilizing artificial intelligence to tailor the educational experience to the unique characteristics of individual students.

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Conflict Of Interests

The authors declare no competing interests, such as financial or personal relationships, in the writing of this article.

Author Contributions Statement

Harif Hidayat Syah conceived the research idea, designed the research, collected and analysed the data, and drafted the manuscript. Muh. Naim

Madjid contributed to the research design, supervised the research, and critically reviewed and revised the manuscript. Ismail Guler provided academic guidance, contributed to data interpretation, and reviewed the manuscript from a scientific perspective. Nafizatul Azmi assisted with data collection, supported the analysis, and contributed to the translation of quantitative and qualitative data.

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