

The Multidimensional Nature of Arabic Reading Comprehension: A Systematic Review of Pedagogy, Technology, Cognitive–Linguistic Factors, Text Features, and Assessment

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ABSTRACT

Arabic reading comprehension is shaped by a complex interplay of instructional, technological, cognitive–linguistic, textual, and assessment-related factors. However, existing research has often examined these dimensions separately, limiting an integrated understanding of how they collectively influence reading development. This systematic literature review synthesised recent evidence on Arabic reading comprehension using the PRISMA approach. Searches conducted in Scopus and Web of Science identified 381 records published between 2021 and 2026, of which 21 studies met the final inclusion criteria and were subjected to quality appraisal and thematic analysis. Five major themes emerged: strategy-based and collaborative reading instruction; technology-enhanced reading and digital resources; linguistic, cognitive, and vocabulary predictors of reading; text characteristics, readability, and discourse processing; and teacher practices and literacy assessment. The findings show that Arabic reading comprehension is supported by strategic and collaborative approaches such as reciprocal teaching, skimming, metacognitive strategy use, and literature circles, while digital platforms, blended learning, and AI-generated resources are increasingly shaping reading instruction. Linguistic and cognitive factors, including phonological and morphological awareness, decoding, vocabulary, orthographic processing, memory, and executive functions, also play important roles in reading performance. Text genre, lexical characteristics, and readability further influence comprehension, whereas teacher practices and literacy assessment remain comparatively under-researched. Overall, the review highlights the need for an integrated approach that aligns instructional strategies, learner characteristics, text design, technology, teacher expertise, and assessment. Future research should prioritise longitudinal and mixed-method studies, validated literacy assessments, diverse learner populations, and the long-term effects of AI-supported Arabic reading instruction.

Keywords: Arabic reading comprehension, reading strategies, educational technology, cognitive–linguistic factors, literacy assessment

INTRODUCTION

Background of the study

Arabic reading comprehension is a complex process involving more than the recognition of written words. Readers must coordinate decoding, vocabulary knowledge, phonological and morphological awareness, background knowledge, strategic processing, and the interpretation of textual and discourse structures. Recent studies show that reading outcomes can be strengthened through collaborative approaches such as literature circles and reciprocal teaching, while digital platforms, blended learning, and artificial intelligence are increasingly used to support literacy development (Almazroui, 2026; Allaihy & Zaki, 2025). Other research has demonstrated that vocabulary, orthographic processing, morphology, and decoding contribute significantly to comprehension, particularly because Arabic has distinctive linguistic features, including rich morphology, diglossia, and variation in the use of diacritics (Amin & Gottardo, 2022; Wolsey et al., 2023).

Statement of Problem

Despite this growing body of research, Arabic reading comprehension remains difficult to explain through a single instructional or cognitive perspective. Existing studies often examine isolated factors, such as reading strategies, digital tools, vocabulary knowledge, text readability, or assessment, without considering how these dimensions interact. Moreover, studies on teachers' actual classroom practices and standardised literacy assessment remain comparatively limited (Hassanein et al., 2021; Telfah & Al-Hawamdah, 2023).

Research Gap

Therefore, a research gap exists in the absence of an integrated synthesis that connects pedagogy, technology, cognitive-linguistic predictors, textual characteristics, and assessment. This systematic review addresses that gap by mapping recent evidence and presenting Arabic reading comprehension as a multidimensional phenomenon shaped by interactions among learners, texts, teachers, instructional approaches, and digital environments.

Research Questions

Research questions are important to a systematic literature review (SLR). The questions provide the foundation and direction for the entire review process. A well-defined research question ensures that the literature search is exhaustive and systematic, covering all relevant studies that address key aspects of the topic (Kitchenham, 2007). The research questions in this SLR are formulated based on the PICO framework. This framework is a mnemonic style used to formulate research questions, particularly in qualitative research, proposed by Lockwood et al. (2015). PICO stands for Population, Interest, and Context. This SLR is done to answer the four research questions below;

RQ1 What strategy-based and collaborative instructional approaches have been used to enhance reading comprehension among Arabic language learners and Arabic-speaking learners, and what learning outcomes have been reported?

RQ2 How have technology-enhanced reading approaches and digital resources been designed, implemented, and evaluated to support reading comprehension among Arabic language learners and Arabic-speaking learners?

RQ3 What linguistic, cognitive, and vocabulary-related factors have been identified as predictors of reading comprehension, reading accuracy, reading fluency, and reading speed among Arabic language learners and Arabic-speaking learners?

RQ4 How do text characteristics, readability, and discourse-processing features influence reading comprehension among Arabic language learners and Arabic-speaking learners?

RQ5 How are teacher practices and literacy assessment approaches conceptualised, implemented, and evaluated in supporting Arabic reading instruction and learners' reading development?

LITERATURE REVIEW

Theoretical Framework

Sociocultural Theory by Lev Vygotsky (1978)

Sociocultural Theory, associated with Lev Vygotsky (1978), views learning as a socially mediated process in which cognitive development emerges through interaction with other people and the cultural tools available within a particular community. A central concept is the Zone of Proximal Development, which represents the distance between what learners can accomplish independently and what they can achieve with appropriate guidance from a teacher or more capable peer. Language functions as an important mediational tool

because discussion, questioning, explanation, and feedback enable learners to organise ideas and gradually internalise effective ways of thinking. This perspective provides a strong theoretical foundation for the theme of Strategy-Based and Collaborative Reading Instruction. Approaches such as reciprocal teaching, literature circles, peer discussion, brainstorming, and guided reading create opportunities for learners to jointly interpret texts, verbalise comprehension processes, and receive scaffolding when encountering unfamiliar vocabulary or complex ideas. As support is gradually reduced, learners can assume greater responsibility for selecting, applying, and monitoring reading strategies. Thus, reading comprehension is developed not only through individual cognitive effort but also through purposeful participation in socially organised literacy activities (Vygotsky, 1978).

Cognitive Load Theory by John Sweller (1988)

Cognitive Load Theory, introduced by John Sweller (1988), explains that learning is influenced by the limited capacity of working memory when individuals process new or complex information. When instructional materials require learners to attend to too many elements simultaneously, their cognitive resources may become overloaded, thereby reducing comprehension and knowledge acquisition. This theory provides a relevant foundation for the theme of Technology-Enhanced Reading and Digital Resources because digital reading environments can either support or hinder learners' processing of textual information. Well-designed platforms, interactive e-books, blended-learning materials, and artificial intelligence-generated resources may reduce unnecessary cognitive demands by segmenting difficult texts, highlighting essential information, providing immediate feedback, and presenting activities in manageable stages. For example, digital chunking may help learners process a passage in smaller, meaningful units rather than confronting the entire text at once. However, excessive animations, complicated navigation, irrelevant multimedia features, and linguistically inaccurate AI-generated content may impose unnecessary cognitive load and distract learners from constructing meaning. Therefore, technology alone does not guarantee improved reading comprehension; its effectiveness depends on whether the digital design directs learners' cognitive resources towards relevant language processing and meaningful understanding (Sweller, 1988).

Simple View of Reading by Philip Gough and William Tunmer (1986)

The Simple View of Reading, proposed by Philip Gough and William Tunmer (1986), conceptualises successful reading comprehension as the product of two essential components: decoding and linguistic comprehension. Decoding refers to a reader's ability to recognise and accurately process written words, whereas linguistic comprehension involves understanding vocabulary, sentence structures, and the meanings conveyed through language. The model is commonly represented as $\text{Reading Comprehension} = \text{Decoding} \times \text{Linguistic Comprehension}$, indicating that weakness in either component may significantly restrict overall reading achievement. This model provides a relevant theoretical foundation for the theme of Linguistic, Cognitive, and Vocabulary Predictors of Reading. Phonological awareness, morphological awareness, orthographic knowledge, and rapid word recognition contribute to efficient decoding, while vocabulary breadth and depth, syntactic knowledge, working memory, and background knowledge support linguistic comprehension. In Arabic reading contexts, these factors are particularly important because readers must process a complex orthographic and morphological system while constructing meaning from connected text. Therefore, the Simple View of Reading supports the examination of how multiple linguistic and cognitive variables interact to predict reading accuracy, fluency, speed, and comprehension among Arabic language learners and Arabic-speaking readers (Gough & Tunmer, 1986).

Construction-Integration Model by Walter Kintsch (1988)

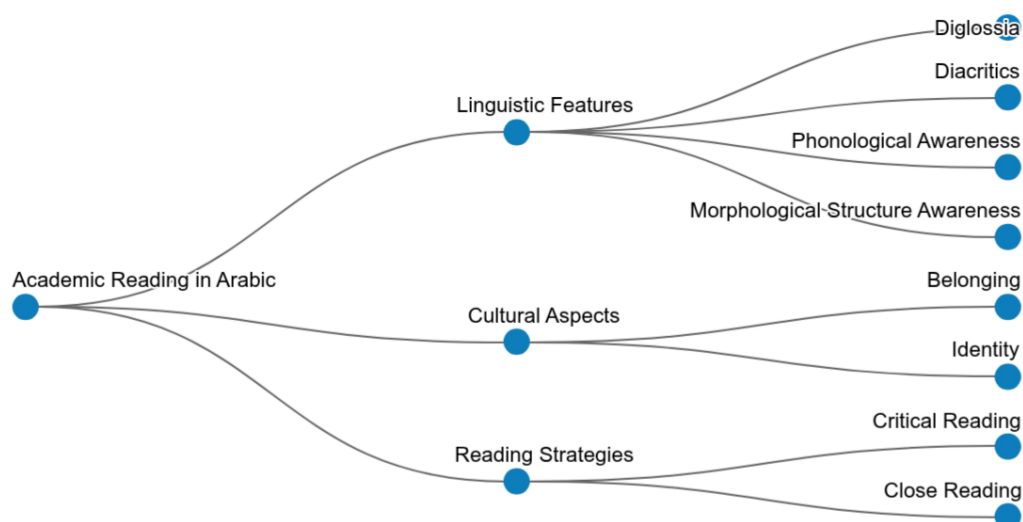
The Construction-Integration Model, introduced by Walter Kintsch (1988), explains reading comprehension as a cognitive process involving two interconnected phases: construction and integration. During the construction phase, readers activate possible meanings, propositions, associations, and relevant prior knowledge from the text. Some of this information may initially be incomplete, irrelevant, or inconsistent. During the integration phase, the reader evaluates these activated ideas and strengthens the connections that contribute to a coherent interpretation while suppressing unsuitable information. Through these processes,

readers develop a mental representation that integrates the surface features of the text, its underlying propositions, and their existing knowledge. This model provides a strong theoretical foundation for the theme of Text Characteristics, Readability, and Discourse Processing because comprehension depends partly on how clearly textual information is structured and connected. Features such as vocabulary frequency, syntactic complexity, cohesion, text genre, referential relationships, and discourse organisation can influence the ease with which readers construct and integrate meaning. Texts with unfamiliar vocabulary, weak cohesion, or complex structures may place greater processing demands on readers and obstruct the formation of a coherent mental representation. Therefore, readability should be understood as an interaction between textual features, discourse organisation, and readers' knowledge and processing abilities (Kintsch, 1988).

Pedagogical Content Knowledge by Lee Shulman (1986)

Pedagogical Content Knowledge, introduced by Lee Shulman (1986), refers to the specialised knowledge teachers require to transform subject-matter content into forms that are understandable and meaningful to learners. It extends beyond knowing what to teach by including knowledge of how particular concepts should be represented, explained, demonstrated, and adapted according to learners' abilities, prior knowledge, and common difficulties. This framework provides a strong theoretical foundation for the theme of Teacher Practices and Literacy Assessment because effective reading instruction requires teachers to integrate knowledge of language, reading processes, instructional strategies, learner differences, and assessment. In reading classrooms, teachers apply Pedagogical Content Knowledge when selecting appropriate texts, modelling comprehension strategies, explaining unfamiliar vocabulary, providing scaffolding, and organising pre-reading, during-reading, and post-reading activities. Literacy assessment also supports this process by providing evidence of learners' decoding, vocabulary, fluency, and comprehension abilities. Teachers can use such evidence to identify difficulties, provide targeted feedback, modify instructional approaches, and select activities that correspond to learners' needs. Therefore, Pedagogical Content Knowledge explains how teachers connect reading content, pedagogy, learner understanding, and assessment information to support effective literacy development (Shulman, 1986).

CONCEPTUAL FRAMEWORK



The conceptual framework positions Arabic reading comprehension as a multidimensional process shaped by the interaction of learner characteristics, textual demands, instructional practices, technology, and assessment. As illustrated in the diagram, academic reading in Arabic is influenced by linguistic features such as diglossia, diacritics, phonological awareness, and morphological structure awareness; cultural aspects such as belonging and identity; and reading strategies such as critical and close reading. The Simple View of Reading explains how decoding and linguistic comprehension jointly determine reading success, thereby supporting the analysis of cognitive–linguistic and vocabulary-related predictors (Gough & Tunmer, 1986). Meanwhile, the

Construction–Integration Model explains how readers construct meaning from vocabulary, syntax, cohesion, and discourse structures before integrating textual information with prior knowledge to form a coherent mental representation (Kintsch, 1988).

The instructional dimension is anchored in Sociocultural Theory, which views reading development as socially mediated through scaffolding, dialogue, peer interaction, and collaborative strategy use (Vygotsky, 1978). This perspective supports approaches such as literature circles, reciprocal teaching, discussion, and guided critical reading. The technological dimension is explained through Cognitive Load Theory, which suggests that digital platforms, e-books, and AI-generated materials improve comprehension only when they organise information clearly, reduce unnecessary processing, and present text in manageable segments (Sweller, 1988).

Finally, Pedagogical Content Knowledge explains how teachers integrate knowledge of Arabic language features, learner difficulties, instructional strategies, and literacy assessment to adapt teaching effectively (Shulman, 1986). Collectively, the five theories conceptualise Arabic reading comprehension as the outcome of dynamic relationships among linguistic processing, cultural engagement, strategic instruction, digital design, teacher expertise, and assessment-informed support.

MATERIAL AND METHODS

For conducting systematic literature reviews, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach is a widely accepted standard that guarantees transparency, completeness, and consistency throughout the procedure by Page et al. (2021). guide how to systematically identify, screen, and include studies in their review. In the context of this SLR, the writers involved in this article act as researchers and work together to analyse the articles deemed relevant for the title. Two important databases, Web of Science and Scopus, were used in this analysis because of their wide coverage and robustness.

The PRISMA approach is organized into four key stages: (i) identification, (ii) screening, (iii) eligibility, and (iv) data abstraction. In the identification phase, databases are searched to locate all relevant studies. The screening phase then involves evaluating these studies against predefined criteria to eliminate irrelevant or low-quality research. During the eligibility phase, the remaining studies are thoroughly assessed to confirm they meet the inclusion criteria. Finally, data abstraction focuses on extracting and synthesizing data from the included studies, which is essential for deriving meaningful and reliable conclusions. This structured method ensures that the systematic review is conducted with rigor, leading to trustworthy results that can guide future research and practice. The PRISMA framework lists three main stages for analysis: (i) identification, (ii) screening, (iii) eligibility, (iv) data abstraction and analysis, as well as (v) quality of appraisal.

Identification

In accordance with the PRISMA framework, the identification phase represents a critical starting point in the systematic literature review process, as it is designed to ensure exhaustive coverage of relevant studies while reducing the risk of selection bias. In this study, a structured and comprehensive search was conducted across two leading bibliographic databases, Scopus and Web of Science (WoS), using the keywords “academic reading”, “academic literacy”, “scholarly reading”, “reading comprehension” and Arabic-related terms, including “Arabic”, “Arabic language”, “Arabic script” and “Arabic literature”. Table 1 below shows the search string.

These databases were deliberately selected because of their extensive multidisciplinary coverage, stringent indexing criteria, and strong representation of high-quality, peer-reviewed journals. The search process resulted in the retrieval of 281 records from Scopus and 100 records from Web of Science, yielding a combined total of 381 records prior to the removal of duplicates.

The higher number of results obtained from Scopus can be attributed to its broader inclusion of journals and stronger coverage in the social sciences, whereas WoS contributed a more targeted collection of highly cited and

methodologically rigorous studies. As shown in Table 1, the identification of 381 records reflects the growing academic interest in studies of Arabic reading and reading comprehension. Employing multiple databases enhances the methodological robustness of the review by minimizing database-specific bias and increasing the likelihood of capturing diverse research traditions and geographical contexts.

Additionally, the use of carefully designed search terms ensured sensitivity to terminological variation while maintaining alignment with the review's objectives. Overall, this transparent and systematic identification process establishes a strong foundation for subsequent screening and eligibility stages, consistent with PRISMA standards and expectations for rigorous, replicable research.

Table 1: The search string

Scopus	TITLE-ABS-KEY (("academic reading" OR "academic literacy" OR "scholarly reading" OR "reading comprehension") AND (arabic OR "Arabic language" OR "Arabic script" OR "Arabic literature"))
Web of Science	TITLE-ABS-KEY (("academic reading" OR "academic literacy" OR "scholarly reading" OR "reading comprehension") AND (arabic OR "Arabic language" OR "Arabic script" OR "Arabic literature")) Extracted July 2026

Screening

During the screening stage of the systematic literature review, potentially relevant studies were evaluated to ensure their alignment with the five established research questions. This phase focused on refining the initial pool of records by removing duplicates and applying predefined inclusion and exclusion criteria. Following the initial review, 314 publications were excluded for failing to meet the scope and relevance requirements of the study, leaving 67 (Scopus=38; Wos; 29) articles for further consideration, as outlined in Figure 2. The primary inclusion criterion was the type of literature, with priority given to scholarly sources that offer substantive and empirical insights. As a result, materials such as book reviews, book series, meta-syntheses, meta-analyses, conference proceedings, and book chapters not directly related to the core focus of the review were excluded. To ensure consistency and relevance to contemporary academic discourse, only peer-reviewed publications written in English and published between 2021 and 2026 were retained. Additionally, a duplication check led to the removal of 4 repeated records across the databases. This systematic and criteria-driven screening process enhanced the focus and quality of the evidence base, ensuring that only the most relevant and methodologically sound studies progressed to the subsequent stages of analysis.

Eligibility

For the third step, known as eligibility, a total of 63 articles have been prepared. All articles' titles and key content were thoroughly reviewed at this stage to ensure that the inclusion requirements were fulfilled and fit into the present study with the current research aims. Finally, 21 articles are available for review (see Table 3).

Table 3: The selection criterion is searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line	2021 – 2026	< 2021

Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press
Subject Area	Studies related to Arabic reading comprehension, Arabic reading/literacy, reading strategies, linguistic or cognitive predictors, text characteristics, technology-supported reading, teacher practices or literacy assessment	Studies unrelated to reading comprehension or literacy within the scope of Arabic reading research

Data Abstraction and Analysis

An integrative analysis was used as one of the assessment strategies in this study to examine and synthesize a variety of research designs (quantitative, qualitative, and mixed methods). To develop themes, the authors carefully analyzed 21 publications for relevant material related to the study's topics. They examined the methodology and research results of significant studies on Arabic reading and comprehension. The authors collaborated to develop themes based on the evidence presented throughout the study. They kept a log of their data analysis process to document relevant perspectives, analyses, or ideas. The authors ensured consistency in theme design by comparing the results and discussing disagreements between themselves. This expert review phase established the validity of each subtheme by ensuring clarity, importance, and suitability (Refer to Appendix 1).

Quality of Appraisal

According to Kitchenham and Charters (Kitchenham, 2007), the researchers need to assess the quality of the research chosen. The next stage is applying quality assessment suggested by Abouzahra et al., (2020), which consists of six questions complying to a scoring procedure for evaluating each criteria. The possible ratings are

"Yes" (Y) with a score of 1 if the criterion is fully met, "Partly" (P) with a score of 0.5 if the criterion is somewhat met but contains some gaps or shortcomings, and "No" (N) with a score of 0 if the criterion is not met at all.

Table 3: Possible ratings for 6 questions by Abouzahra et al., (2020)

No	Question
QA1	Is the purpose of the study clearly stated?
QA2	Is the interest and the usefulness of the work clearly presented?
QA3	Is the study methodology clearly established?
QA4	Are the concepts of the approach clearly defined?
QA5	Is the work compared and measured with other similar work?
QA6	Are the limitations of the work clearly mentioned?

Each writer independently assesses the study according to these criteria, and the scores are then totalled across all experts to determine the overall mark. For a study to be accepted for the next process, the total mark,

derived from summing the scores from all three experts, must exceed 3.0. This threshold ensures that only studies meeting a certain quality standard proceed further. The results are shown in Table 4.

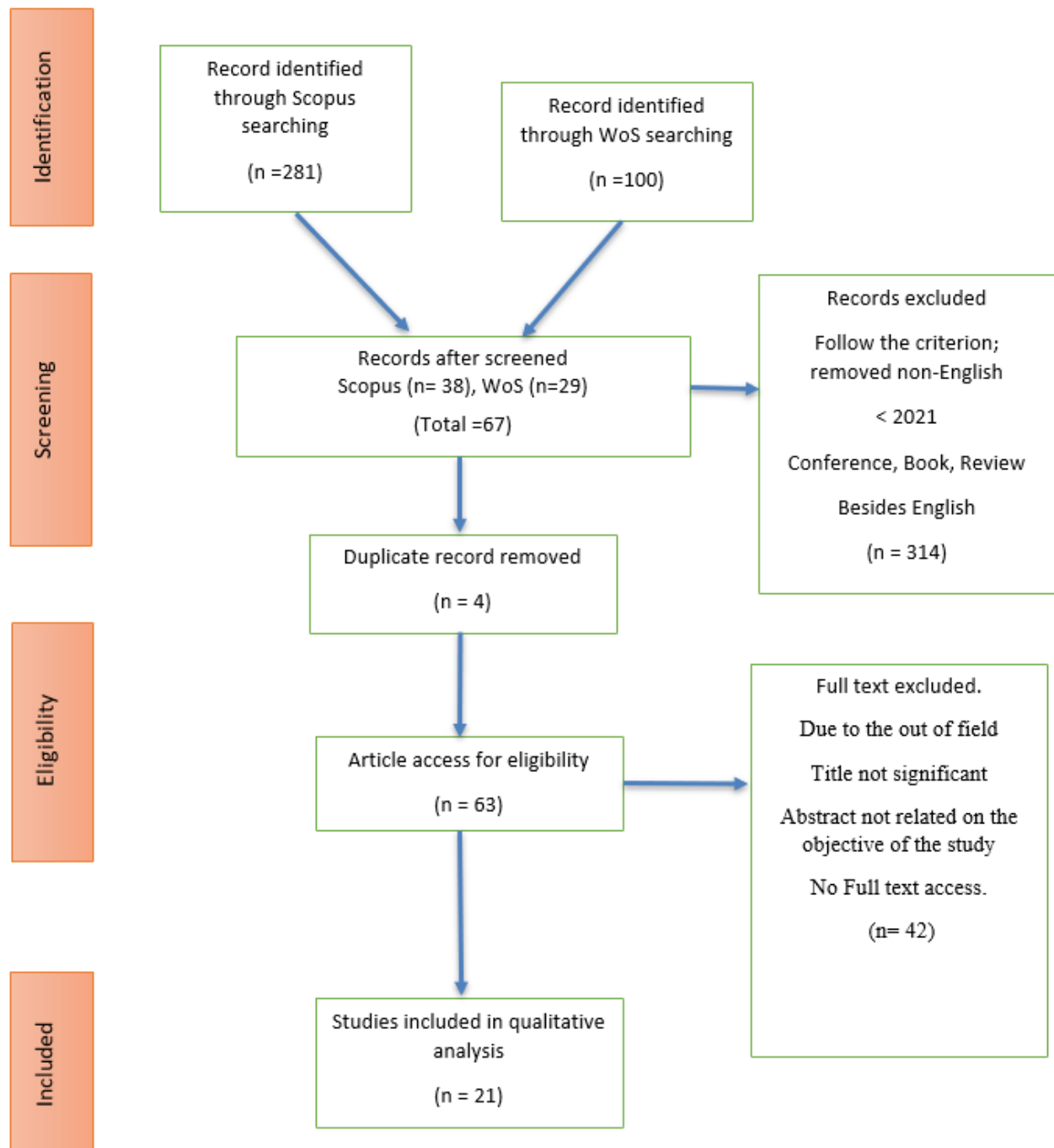


FIGURE 2: Flow diagram of the proposed searching study (Moher D, Liberati A, Tetzlaff J, 2009)

RESULT AND FINDING

Quality of Assessment

Table 4 shows the result of the assessment performance for selected primary studies. The overall quality of the articles is as follows;

- **High quality (≥80%):** Majority of studies
- **Moderate quality (60–79%):** Conceptual or descriptive studies

- **Lower quality (<60%):** Primarily survey-only or exploratory abstracts

Table 4: Quality of Assessment for selected 21 articles

Study	Author and Year	Article Title	Q A1	Q A2	Q A3	Q A4	Q A5	Q A6	Total Mark	Percentage (%)
PS1	Omar et al. (2026)	The Impact of the Conker Digital Chunking Platform on Arabic Reading Comprehension Among Eighth-Grade Students	Y	Y	P	P	Y	N	4.0	66.67
PS2	Rusli et al. (2024)	The Impact of Informative and Narrative Texts on Arabic Language Comprehension in Islamic Education	Y	Y	Y	Y	Y	Y	6.0	100.00
PS3	Almazroui (2026)	Recontextualizing Literature Circles for Arabic Literacy Classrooms: A Human-Centred Approach to Fostering Belonging	Y	Y	Y	Y	Y	N	5.0	83.33
PS4	Makhoul & Olshtein (2026)	Blended Learning as a Tool for Promoting Academic Literacy in Arabic: Effects on Students with Different Ability Levels	Y	Y	Y	P	P	N	4.0	66.67
PS5	Nurhadi & Abidin (2025)	Skimming Technique to Enhance Students' Comprehension of Arabic Texts in the Test of Arabic as a Foreign Language	Y	Y	Y	Y	Y	N	5.0	83.33
PS6	Altamimi (2024)	Phonological Awareness and Reading Ability: Exploring the Connection Between Phonological Skills and Reading Proficiency	Y	Y	Y	P	N	N	3.5	58.33
PS7	Alkasasbeh et al. (2025)	Cultivating Critical Reading Skills in a Cultural Context: Investigating Reciprocal Teaching in Arabic Language Education	Y	Y	Y	Y	Y	N	5.0	83.33
PS8	Razkane et al. (2023)	Eleventh-grade Students' Use of Metacognitive Reading Strategies in Arabic (L1) and English (L3)	Y	Y	Y	Y	Y	N	5.0	83.33
PS9	Amin & Gottardo (2022)	The Simple View of Reading: Language-specific and contextual characteristics related to Arabic speakers in Saudi Arabia and Canada	Y	Y	Y	Y	Y	N	5.0	83.33
PS10	Alkhazaleh & Abu Sal (2024)	Impact of Using Mind Maps to Improve Reading Comprehension Skills of Eighth Grade Students	Y	Y	Y	Y	Y	N	5.0	83.33
PS11	Allaithy & Zaki (2025)	Evaluation of AI-generated reading comprehension materials for Arabic language teaching	Y	Y	Y	Y	Y	N	5.0	83.33
PS12	Tarabya & Khateb (2026)	On the Linguistic and Cognitive Factors that Predict Reading Abilities Among Arabic-Speaking University Students	Y	Y	Y	Y	P	P	5.0	83.33
PS13	Telfah & Al-Hawamdah (2023)	Arabic Teachers' Evaluation Degree of their Reading Teaching Strategies and Practices	Y	P	Y	Y	P	N	4.0	66.67

Study	Author and Year	Article Title	Q A1	Q A2	Q A3	Q A4	Q A5	Q A6	Total Mark	Percentage (%)
PS14	Almsaiden et al. (2025)	The Effect of Mental Perseverance Strategy for Teaching Arabic Language for Developing Reading Comprehension and Divergent Thinking Skills among First-Year Literary Secondary School Students	Y	P	Y	P	Y	N	4.0	66.67
PS15	Ali Al-Hirsh & Alslaiti (2024)	Using the Brainstorming Strategy to Develop Arabic Reading Comprehension for Seventh Grade Students in Jordan; استخدام استراتيجيّة العصف الذهني في تطوير فهم [المقروء باللغة العربية لطلبة الصف السابع في الأردن]	Y	Y	Y	Y	Y	N	5.0	83.33
PS16	Bishara (2022)	Association between Phonological and Morphological Awareness and Reading Comprehension among Special-Education Children in Arab Elementary Schools	Y	Y	P	Y	N	N	3.5	58.33
PS17	Albilali et al. (2022)	Constructing Arabic Reading Comprehension Datasets: Arabic WikiReading and KaifLematha	Y	Y	Y	Y	Y	P	5.5	91.67
PS18	Hassanein et al. (2023)	What predicts word reading in Arabic?	Y	Y	Y	Y	P	N	4.5	75.00
PS19	Wolsey et al. (2023)	Texts for reading instruction and the most common words in modern standard Arabic: an investigation	Y	Y	Y	Y	Y	N	5.0	83.33
PS20	Hassanein et al. (2021)	Developing a Test of Early Arabic Literacy Skills	Y	Y	P	Y	P	N	4.0	66.67
PS21	Ismail & Yusoff (2021)	Language Learning Strategies And Readability Of Form Four KBD Arabic Textbooks	Y	Y	Y	Y	P	N	4.5	75.00

The quality appraisal of the 21 included studies indicates an overall moderate-to-high level of methodological and reporting quality. The total quality scores ranged from 3.5 to 6.0 out of a possible 6 points, with an average score of approximately 4.64, equivalent to 77.38%. PS2 (Rusli et al., 2024) achieved the highest score of 6.0 (100%), followed by PS17 (Albilali et al., 2022) with 5.5 (91.67%). Most studies obtained scores between 4.0 and 5.0, corresponding to 66.67%–83.33%, suggesting that the majority adequately addressed the core quality criteria. The lowest scores were recorded for PS6 (Altamimi, 2024) and PS16 (Bishara, 2022), both scoring 3.5 (58.33%), although they still exceeded the predetermined inclusion threshold. All studies satisfied QA1, indicating that their research purposes were clearly stated. However, QA6 emerged as the weakest criterion, as most studies did not clearly report their research limitations. Overall, the findings suggest that the included studies were sufficiently robust for synthesis, while highlighting inconsistent reporting of study limitations across the literature.

Themes

Table 5: Analysis for Themes

Theme	Suggested theme name	Main focus	Number of records
Theme 1	Strategy-Based and Collaborative Reading	Collaborative and strategy-based approaches to enhance Arabic reading comprehension, metacognitive processing, critical reading, and higher-	7

	Instruction	order reading skills	
Theme 2	Technology-Enhanced Reading and Digital Resources	Digital platforms, blended learning, AI-generated materials, and computational resources used to support Arabic reading comprehension and literacy development	4
Theme 3	Linguistic, Cognitive, and Vocabulary Predictors of Reading	Linguistic and cognitive factors associated with Arabic reading performance, including phonological and morphological awareness, decoding, vocabulary, orthographic processing, executive functions, naming speed, and memory.	5
Theme 4	Text Characteristics, Readability, and Discourse Processing	Text genre, lexical characteristics, and readability factors associated with Arabic reading comprehension and instructional materials.	3
Theme 5	Teacher Practices and Literacy Assessment	Teacher practices in Arabic reading instruction and the development of Arabic literacy assessment tools.	2
Total			21

The thematic analysis of the 21 included studies identified five major themes that reflect the multidimensional nature of Arabic reading research. Theme 1, Strategy-Based and Collaborative Reading Instruction, was the most prominent, comprising seven studies that examined collaborative and strategy-based approaches to improving reading comprehension, metacognitive processing, critical reading, and higher-order reading skills. Theme 3, Linguistic, Cognitive, and Vocabulary Predictors of Reading, included five studies focusing on phonological and morphological awareness, decoding, vocabulary, orthographic processing, executive functions, naming speed, and memory. Theme 2, Technology-Enhanced Reading and Digital Resources, comprised four studies investigating digital platforms, blended learning, AI-generated materials, and computational resources for Arabic reading and literacy development. Theme 4 contained three studies addressing text-related factors such as genre, lexical characteristics, and readability. Theme 5 was represented by two studies examining teacher practices in Arabic reading instruction and the development of literacy assessment tools. Overall, the distribution of studies indicates greater research attention to instructional strategies and learner-related linguistic and cognitive factors, while teacher practices and assessment remain comparatively less explored.

Theme 1 (T1): Strategy-Based and Collaborative Reading Instruction

Table 6 - Theme 1 (T1): Strategy-Based and Collaborative Reading Instruction

Study	Author and year	Article title	Main basis for categorization
PS3	Almazroui (2026)	Recontextualizing Literature Circles for Arabic Literacy Classrooms: A Human-Centred Approach to Fostering Belonging	Examines peer-led literature circles as a collaborative reading intervention.
PS5	Nurhadi and Abidin (2025)	Skimming Technique to Enhance Students' Comprehension of Arabic Texts in the Test of Arabic as a Foreign Language	Investigates skimming as an explicit reading-comprehension strategy.
PS7	Alkasasbeh et al. (2025)	Cultivating Critical Reading Skills in a Cultural Context: Investigating Reciprocal Teaching in Arabic Language Education	Examines reciprocal teaching as a dialogic and metacognitive instructional strategy.

Study	Author and year	Article title	Main basis for categorization
PS8	Razkane et al. (2023)	Eleventh-Grade Students' Use of Metacognitive Reading Strategies in Arabic (L1) and English (L3)	Focuses on metacognitive strategy use and its relationship with comprehension.
PS10	Alkhazaleh and Abu Sal (2024)	Impact of Using Mind Maps to Improve Reading Comprehension Skills of Eighth Grade Students	Examines mind mapping as an instructional reading strategy.
PS14	Almsaiden et al. (2025)	The Effect of Mental Perseverance Strategy for Teaching Arabic Language for Developing Reading Comprehension and Divergent Thinking Skills among First-Year Literary Secondary School Students	Investigates a mental-perseverance instructional strategy.
PS15	Ali Al-Hirsh and Alslaiti (2024)	Using the Brainstorming Strategy to Develop Arabic Reading Comprehension for Seventh Grade Students in Jordan	Evaluates brainstorming for developing critical and creative reading comprehension.

Theme 1 highlights the importance of strategy-based and collaborative approaches in supporting Arabic reading comprehension. The seven studies grouped under this theme examine a range of instructional strategies, including literature circles, skimming, reciprocal teaching, metacognitive reading strategies, mind mapping, mental perseverance, and brainstorming. Several studies emphasise the role of active learner engagement and interaction. For instance, Almazroui (2026) focuses on peer-led literature circles as a collaborative reading intervention, while Alkasasbeh et al. (2025) examine reciprocal teaching as a dialogic and metacognitive strategy. Other studies investigate more explicit strategy instruction, such as skimming (Nurhadi & Abidin, 2025), mind mapping (Alkhazaleh & Abu Sal, 2024), and metacognitive strategy use (Razkane et al., 2023). Meanwhile, Almsaiden et al. (2025) and Ali Al-Hirsh and Alslaiti (2024) explore mental perseverance and brainstorming as approaches to developing comprehension and higher-order reading abilities. Collectively, these studies show that Arabic reading instruction has increasingly incorporated strategic, interactive, and learner-centred approaches to strengthen comprehension, critical reading, and independent engagement with texts.

Theme 2 (T2): Technology-Enhanced Reading and Digital Resources

Table 7 - Theme 2 (T2): Technology-Enhanced Reading and Digital Resources

Study	Author and year	Article title	Main basis for categorization
PS1	Omar et al. (2026)	The Impact of the Conker Digital Chunking Platform on Arabic Reading Comprehension Among Eighth-Grade Students	Evaluates a digital platform incorporating chunking, feedback, and interactive activities.
PS4	Makhoul and Olshtein (2026)	Blended Learning as a Tool for Promoting Academic Literacy in Arabic: Effects on Students with Different Ability Levels	Examines a blended-learning intervention for academic vocabulary and reading comprehension.
PS11	Allaithy and Zaki (2025)	Evaluation of AI-Generated Reading Comprehension Materials for Arabic Language Teaching	Evaluates Arabic reading materials generated by five artificial-intelligence systems.
PS17	Albilali et al. (2022)	Constructing Arabic Reading Comprehension Datasets: Arabic WikiReading and KaifLematha	Develops large-scale datasets for machine reading comprehension in Arabic.

Theme 2 focuses on the growing role of technology and digital resources in supporting Arabic reading comprehension and literacy development. The four studies grouped under this theme represent different forms of technology-enhanced learning, ranging from interactive digital platforms and blended learning to artificial intelligence and large-scale reading datasets. Omar et al. (2026) evaluate the Conker Digital Chunking Platform, which integrates chunking techniques, feedback, and interactive activities to support reading comprehension among eighth-grade students. Makhoul and Olshtein (2026) investigate blended learning as a means of promoting academic literacy in Arabic, particularly vocabulary development and reading comprehension among learners with different ability levels. Allaithy and Zaki (2025) extend the technological focus by evaluating Arabic reading comprehension materials generated by five artificial-intelligence systems, highlighting the emerging use of AI in language teaching. Meanwhile, Albilali et al. (2022) contribute from a computational perspective by developing Arabic WikiReading and KaifLematha datasets for machine reading comprehension. Collectively, these studies demonstrate the increasing integration of digital, blended, AI-based, and data-driven resources in Arabic reading research and instruction

Theme 3 (T3): Linguistic, Cognitive, and Vocabulary Predictors of Reading

Table 8 : Theme 3 (T3): Linguistic, Cognitive, and Vocabulary Predictors of Reading

Study	Author and year	Article title	Main basis for categorization
PS6	Altamimi (2024)	Phonological Awareness and Reading Ability: Exploring the Connection Between Phonological Skills and Reading Proficiency	Examines the relationship between phonological awareness and reading proficiency.
PS9	Amin and Gottardo (2022)	The Simple View of Reading: Language-Specific and Contextual Characteristics Related to Arabic Speakers in Saudi Arabia and Canada	Examines decoding, vocabulary, morphology, and orthographic processing within the Simple View of Reading.
PS12	Tarabya and Khateb (2026)	On the Linguistic and Cognitive Factors that Predict Reading Abilities Among Arabic-Speaking University Students	Investigates linguistic abilities, executive functions, naming speed, and memory as predictors of reading.
PS16	Bishara (2022)	Association between Phonological and Morphological Awareness and Reading Comprehension among Special-Education Children in Arab Elementary Schools	Examines phonological and morphological awareness among special-education learners.
PS18	Hassanein et al. (2023)	What Predicts Word Reading in Arabic?	Examines phonological, morphological, and orthographic predictors of Arabic word-reading accuracy and fluency.

Theme 3 highlights the linguistic and cognitive factors associated with Arabic reading development and comprehension. The five studies grouped under this theme examine a range of predictors, including phonological awareness, morphological knowledge, decoding, orthographic processing, executive functions, naming speed, and memory. Altamimi (2024) focuses on the relationship between phonological awareness and overall reading proficiency, while Amin and Gottardo (2022) examine decoding, vocabulary, morphology, and orthographic processing within the Simple View of Reading framework. Tarabya and Khateb (2026) extend this perspective by investigating linguistic abilities alongside executive functions, naming speed, and memory as predictors of reading among Arabic-speaking university students. Bishara (2022) specifically explores the contribution of phonological and morphological awareness to reading comprehension among special-education children in Arab elementary schools. Similarly, Hassanein et al. (2023) examine phonological, morphological, and orthographic

factors associated with Arabic word-reading accuracy and fluency. Collectively, these studies indicate that Arabic reading performance is influenced by multiple interacting linguistic and cognitive processes rather than by a single skill or ability.

Theme 4 (T4): Text Characteristics, Readability, and Discourse Processing

Table 9: Theme 4 (T4): Text Characteristics, Readability, and Discourse Processing

Study	Author and year	Article title	Main basis for categorization
PS2	Rusli et al. (2024)	The Impact of Informative and Narrative Texts on Arabic Language Comprehension in Islamic Education	Compares the comprehension effects of narrative and informative text genres.
PS19	Wolsey et al. (2023)	Texts for Reading Instruction and the Most Common Words in Modern Standard Arabic: An Investigation	Analyses word frequency, dispersion, and vocabulary selection in Arabic instructional textbooks.
PS21	Ismail and Yusoff (2021)	Language Learning Strategies and Readability of Form Four KBD Arabic Textbooks	Examines the relationship between learners' strategies and the readability of Arabic textbooks.

Theme 4 focuses on how text characteristics, readability, and discourse-related features influence Arabic reading comprehension. The three studies included in this theme examine different textual dimensions that may shape learners' reading experiences and comprehension outcomes. Rusli et al. (2024) compare informative and narrative texts to determine how different text genres affect Arabic language comprehension, highlighting the importance of text type in reading performance. Wolsey et al. (2023) investigate the most common words used in Modern Standard Arabic instructional texts, with particular attention to word frequency, vocabulary dispersion, and vocabulary selection in reading materials. Their study emphasises the role of lexical characteristics in supporting the design of appropriate instructional texts. Ismail and Yusoff (2021), meanwhile, examine the relationship between learners' language learning strategies and the readability of Form Four KBD Arabic textbooks, drawing attention to the suitability of textbook difficulty for learners. Collectively, these studies show that Arabic reading comprehension is influenced not only by learner-related factors but also by the linguistic and structural characteristics of the texts being read.

Theme 5 (T5): Teacher Practices and Literacy Assessment

Table 10 - Theme 5 (T5): Teacher Practices and Literacy Assessment

Study	Author and year	Article title	Main basis for categorization
PS13	Telfah and Al-Hawamdah (2023)	Arabic Teachers' Evaluation Degree of Their Reading Teaching Strategies and Practices	Investigates teachers' reported practices across pre-reading, during-reading, and post-reading stages.
PS18	Hassanein et al. (2021)	Developing a Test of Early Arabic Literacy Skills	Presents the theoretical framework for a standardized early Arabic literacy assessment.

Theme 5 focuses on the role of teacher practices and literacy assessment in supporting Arabic reading development. The two studies included in this theme address complementary dimensions of instruction and evaluation. Telfah and Al-Hawamdah (2023) examine Arabic teachers' reported reading-teaching practices

across the pre-reading, during-reading, and post-reading stages. Their study highlights the importance of teachers' instructional decisions in structuring reading activities and guiding learners throughout the reading process. In contrast, Hassanein et al. (2021) focus on assessment by developing a standardized test of early Arabic literacy skills, providing a framework for evaluating foundational literacy abilities in Arabic. Together, these studies demonstrate that effective Arabic reading development depends not only on classroom teaching strategies but also on appropriate assessment tools that can identify learners' literacy strengths and needs. However, the relatively small number of studies represented in this theme suggests that teacher practices and literacy assessment have received less attention than other areas such as reading strategies, technology, and linguistic predictors. This indicates a need for further research on classroom implementation, teacher expertise, and validated Arabic literacy assessment practices.

CONCLUSION

Summary of Findings

This systematic review demonstrates that Arabic reading comprehension is a multidimensional process shaped by instructional strategies, technology, linguistic and cognitive abilities, text characteristics, and teacher-related assessment practices. Across the 21 studies, strategy-based and collaborative instruction emerged as the most prominent area, with approaches such as literature circles, skimming, reciprocal teaching, metacognitive strategies, mind mapping, and brainstorming supporting comprehension and higher-order reading processes. These findings are consistent with studies by Almazroui (2026), Alkasasbeh et al. (2025), and Nurhadi and Abidin (2025). Technology also represents a growing strand of research, as digital chunking, blended learning, AI-generated materials, and computational resources are increasingly incorporated into Arabic reading instruction (Omar et al., 2026; Makhoul & Olshtein, 2026; Allaithy & Zaki, 2025). In addition, linguistic and cognitive factors such as phonological and morphological awareness, decoding, orthographic processing, memory, and vocabulary contribute to reading performance, as reported by Amin and Gottardo (2022), Tarabya and Khateb (2026), and Hassanein et al. (2023).

Implications and Suggestions for Future Research

The findings imply that Arabic reading instruction should integrate explicit strategy teaching, appropriately designed digital resources, attention to learners' linguistic and cognitive needs, and texts suited to learners' proficiency levels. Teachers may also benefit from stronger assessment practices to identify learners' strengths and reading difficulties. Future research should therefore examine how these dimensions interact in authentic classrooms through longitudinal, mixed-method, and multi-context studies. Greater attention is particularly needed on teacher practices, validated literacy assessment tools, diverse learner populations, and the long-term effects of emerging technologies such as AI on Arabic reading development.

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