



Syntactic Anticipation and Arabic Reading Comprehension Among Hubulo Boarding School Students

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Article History	ABSTRACT
Received: 26-12-2025 Accepted: 02-06-2026: Published: 08-08-2026	Background: Reading comprehension of unvocalized Arabic texts presents a significant challenge for students, as the absence of harakat requires readers to rely on grammatical and structural cues rather than phonological decoding to construct meaning. One cognitive mechanism believed to support this process is syntax cognitive anticipation defined in this study as the reader's ability to predict upcoming grammatical structures and sentence roles before fully encountering the text. Despite its theoretical relevance, the relationship between syntax cognitive anticipation and Arabic reading comprehension without diacritics remains underexplored, particularly within the Islamic boarding school context, where students are routinely exposed to unvocalized religious and classical texts. Purpose: This study aims to analyze the relationship between syntax cognitive anticipation ability and the understanding of <i>Maharotul Qira'ah</i> among students of Hubulo Boarding School. Method: This study employed a quantitative correlational design to examine the relationship between syntax cognitive anticipation and Arabic reading comprehension without diacritics among students at Hubulo Islamic Boarding School. A sample of 60 students ($N = 60$) was selected from a population of 130 students using proportionate stratified random sampling. Data were collected through a syntax cognitive anticipation test and a reading comprehension test of unvocalized Arabic texts, and analyzed using Pearson product-moment correlation. Results and Discussion: The results revealed a moderate, statistically significant positive correlation between syntax cognitive anticipation and reading comprehension without diacritics, $r(58) = .534$, $p < .001$, $N = 60$, 95% CI [.32, .69]. Based on standard interpretation criteria for correlation coefficients, this value falls within the moderate range, indicating that students with stronger syntactic anticipation ability tend to demonstrate better comprehension of unvocalized texts, while syntax anticipation accounts for approximately 28.5% of the variance in comprehension scores ($r^2 = .285$). Conclusion and Implications: This study concludes that syntactic cognitive anticipation ability plays an important role in improving students' comprehension of unvocalized maharotul qira'ah, as demonstrated by a moderate and statistically significant positive correlation, $r(58) = .534$, $p < .001$,

N= 60. The practical implication is that teachers need to incorporate syntactic structure anticipation exercises into Arabic language instruction to enhance students' ability to read unvocalized texts. Future research is recommended to expand the variables and learning contexts examined in order to obtain a more comprehensive understanding of the factors influencing Arabic reading comprehension.

Keywords:

Arabic Reading Comprehension, Islamic Boarding School, Syntactic Anticipation, Unvocalized Text.

ABSTRAK

Latar Belakang: Pemahaman membaca teks Arab tanpa harakat merupakan tantangan signifikan bagi siswa, karena ketiadaan harakat menuntut pembaca untuk mengandalkan petunjuk gramatikal dan struktural, bukan penguraian fonologis, untuk membangun makna. Salah satu mekanisme kognitif yang diyakini mendukung proses ini adalah antisipasi kognitif sintaksis dalam penelitian ini didefinisikan sebagai kemampuan pembaca untuk memprediksi struktur gramatikal dan peran kalimat yang akan muncul misalnya subjek, objek, predikat sebelum benar-benar membaca teks secara penuh. Meskipun secara teoretis relevan, hubungan antara antisipasi kognitif sintaksis dan pemahaman membaca teks Arab tanpa harakat masih kurang diteliti, terutama dalam konteks pondok pesantren, di mana siswa secara rutin terpapar teks keagamaan dan klasik tanpa harakat.

Tujuan: Penelitian ini bertujuan untuk menganalisis hubungan antara kemampuan antisipasi kognitif sintaksis dan pemahaman *Maharotul Qira'ah* pada siswa Madrasah Tsanawiyah Hubulo.

Metode: Penelitian ini menggunakan desain kuantitatif korelasional untuk mengkaji hubungan antara antisipasi kognitif sintaksis dan pemahaman membaca teks Arab tanpa harakat pada siswa Pondok Pesantren Hubulo. Sampel sebanyak 60 siswa ($N = 60$) dipilih dari populasi 130 siswa menggunakan teknik proportionate stratified random sampling. Data dikumpulkan melalui tes antisipasi kognitif sintaksis dan tes pemahaman membaca teks Arab tanpa harakat, kemudian dianalisis menggunakan korelasi Pearson product-moment.

Hasil dan Pembahasan: Hasil penelitian menunjukkan terdapat korelasi positif yang moderat dan signifikan secara statistik antara antisipasi kognitif sintaksis dan pemahaman membaca tanpa harakat, $r(58) = 0.534$, $p < 0.001$, $N = 60$, 95% CI [0.32, 0.69]. Berdasarkan kriteria interpretasi koefisien korelasi yang digunakan, nilai ini berada pada kategori moderat, yang mengindikasikan bahwa siswa dengan kemampuan antisipasi sintaksis yang lebih baik cenderung memiliki pemahaman yang lebih baik terhadap teks tanpa harakat, dengan antisipasi sintaksis menyumbang sekitar 28,5% varians skor pemahaman ($r^2 = 0.285$).

Kesimpulan dan Implikasi: Penelitian ini menyimpulkan bahwa kemampuan antisipasi kognitif sintaksis berperan penting dalam meningkatkan pemahaman maharotul qira'ah siswa tanpa harakat, sebagaimana ditunjukkan oleh korelasi positif yang moderat dan signifikan, $r(58) = 0.534$, $p < 0.001$, $N = 60$. Implikasi praktisnya adalah perlunya guru memasukkan latihan antisipasi struktur sintaksis dalam pembelajaran bahasa Arab untuk meningkatkan keterampilan membaca siswa tanpa harakat. Penelitian selanjutnya disarankan untuk memperluas variabel dan konteks pembelajaran guna memperoleh gambaran yang lebih komprehensif mengenai faktor-faktor yang memengaruhi pemahaman membaca bahasa Arab.

Kata Kunci:

Antisipasi Sintaksis, Pemahaman Membaca Bahasa Arab, Pondok Pesantren, Teks Tanpa Harakat.



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INTRODUCTION

Arabic is a language with complex morphological and syntactic structure. Alterations in diacritics can modify a word's grammatical role and potentially change the entire meaning of a sentence. As a result, when diacritics are omitted, such as in unvocalized Arabic texts (Arabic without *harakat*), classical texts, and many formal Arabic writings, readers rely on predictive cues to understand the syntactic structure of the sentence [1]. This skill, called syntactic anticipation, refers to the reader's capacity to predict patterns and syntactic functions using knowledge of *nahwu*, morphology, and sentence context. Since Arabic has a wide range of words and meanings, many people are eager to learn it for its richness and uniqueness [2]. Learning Arabic is an essential component of religious education, particularly in institutions such as boarding school and pesantren, since Islamic sources, including the Qur'an, Hadith, and classical literature, are commonly written without diacritical marks [3]. Reading such unvocalized texts (*kitab turost*) presents a distinct challenge for students, as the absence of vowel signs requires readers to determine each word's grammatical role, sentence boundaries, and intended meaning largely on their own. This challenge highlights the importance of syntactic anticipation, the reader's ability to predict the grammatical function and structural pattern of upcoming words based on morphological and contextual cues, as a critical skill for achieving accurate Arabic reading comprehension [4].

Previous studies on *nahwu* have predominantly relied on library-based, qualitative approaches rather than empirical investigations of students' reading performance. Nujaima and Kurniawan through a literature study, established that syntax and morphology function as complementary disciplines forming the structural foundation of Arabic sentence meaning, yet they did not examine how this theoretical knowledge translates into actual reading behavior [5]. Similarly, Rahman, Hanief, analyzed the presentation of syntactic material in the *nahwu* Wadhih textbook through content analysis based on Mackey's theory, finding that the book adequately addresses material selection, gradation, and repetition, though vocabulary choices were not always suited to students proficiency level this analysis, however, was confined to textbook content and did not involve actual readers. In a related but distinct line of inquiry [6]. Nawas et al. examined Qur'anic and Hadith perspectives on foreign language learning through inter textual analysis, offering theological grounding for language acquisition but no empirical data on how students process Arabic syntax during reading. Collectively, these studies affirm the centrality of *nahwu* in Arabic learning but leave unexamined the empirical link between students' syntactic anticipation, their ability to predict grammatical structure in the absence of diacritics, and their actual reading comprehension performance, particularly among boarding school students who routinely engage with unvocalized texts. This gap constitutes the empirical foundation of the present study [7].

Research in the field of *nahwu* has so far been predominantly descriptive or prescriptive in orientation, focusing on the teaching of grammatical rules rather than explaining their impact on reading cognitive performance. Consequently, few empirical studies have quantified and analyzed the statistical relationship between the ability to anticipate syntactic structures (based on *nahwu* rules) and Arabic reading comprehension, particularly among junior high school students [8]. This gap is further underscored by studies demonstrating that knowledge of *nahwu* is essential for correctly interpreting shari'ah texts; without adequate mastery of *nahwu*, textual comprehension is susceptible to error [6]. It can therefore be argued that grammatical rules serve as a foundational basis for understanding Arabic texts, especially those of a religious nature.

Nahwu equips readers not only to recognise *i'rab* and interpret sentence structure correctly [9], but also to anticipate the form, position, and function of upcoming linguistic elements within a text [9]. his integrative capacity linking grammatical knowledge with forward directed inference constitutes what is understood as syntactic anticipation: the reader's cognitive ability to project meaning and structural relationships before the full input has been processed [10]. The ability to anticipate syntax is one of the cognitive strategies that play an essential role in the reading

comprehension process, especially when readers encounter texts with high structural complexity, such as unvowelized Arabic sentences [4]. This strategy allows readers to predict the structure and grammatical function of a word or phrase before they finish processing the entire sentence, enabling understanding to occur more quickly and accurately [11]. Empirical support for this relationship can be found in Alzahrani & Almalki who investigated Arabic second-language learners in a formal instructional setting using a syntactic priming paradigm.

Their study demonstrated that repeated exposure to specific syntactic frames accelerated learners' structural processing speed and improved reading accuracy, suggesting that syntactic anticipation is not merely a passive by-product of grammatical knowledge but an actively trainable cognitive skill. Critically, however, their participants were adult university-level learners operating within a modern standard Arabic curriculum a context that differs meaningfully from the present study, which examines junior high school students at an Islamic boarding school whose Arabic exposure is predominantly through unvocalised classical texts [12]. In the absence of harakat (vowel diacritics) as is characteristic of classical Islamic, religious, and boarding school instructional materials [13] readers cannot rely on phonological cues and must instead draw heavily on internalized syntactic schemata to assign grammatical roles and recover meaning, a demand that makes attentiveness to *i'rab* function particularly decisive for successful comprehension [14]. In this regard, Fahmi & Abidin provide a complementary finding within a more analogous context their study of classical Arabic text comprehension demonstrated a strong correlation between syntactic mastery and reading performance, underscoring that the ability to parse unvocalised structures depends critically on the depth of a reader's *nahwu* competence rather than surface-level decoding strategies. [15].

In addition, reading comprehension is not only determined by linguistic ability but also by cognitive processes that support prediction, inference, and meaning extraction are essential. Albiladi states that readers with a higher capacity for structural anticipation tend to demonstrate superior reading comprehension performance in both foreign texts and religious themed materials texts [16]. This study supports the assumption that syntax anticipation ability is a key indicator in assessing how well a student understands complex texts. In the boarding school environment, where teaching texts often lack diacritical marks and frequently employ a classical language style, the ability to predict syntax structures becomes increasingly crucial [17]. Students are unable to depend on phonological cues instead they need to understand the connections among components such as the subject, predicate, and object, and to identify the *i'rab* position based on the sentence's pattern [18]. The ability to anticipate syntax structures predicting grammatical forms before completing the reading is highly effective in enhancing reading comprehension. Moreover, reading comprehension remains a skill difficult to acquire and develop in educational settings [19]. Especially in the context of adult learners and non-native Arabic speakers.

Many students at Hubulo boarding school (MTs) struggle to understand Arabic texts, particularly in reading and comprehension. This challenge was observed directly during a preliminary study conducted prior to this research, in which an informal diagnostic reading task was administered to a sample of MTs students. The results indicated that the majority of students were unable to correctly identify basic syntactic relationships such as subject-predicate (*muftada-khabar*), verb-object (*fi'l-maf'ul*), and genitive construction (*mudhaf-mudhaf ilayh*) when presented with unvocalised Arabic passages drawn from pesantren instructional materials. Several students also reported uncertainty about the grammatical role of key words, suggesting difficulty in assigning *i'rab* (grammatical case) without explicit diacritical markers. A key factor underlying these difficulties is students' limited capacity for syntactic anticipation that is, the ability to predict the structural form and grammatical function of upcoming elements in an Arabic sentence based on internalized *nahwu*-sharaf rules before completing the reading process [20]. When this anticipatory capacity is underdeveloped, students frequently misparse sentence boundaries and misattribute

grammatical roles, resulting in systematic comprehension errors rather than incidental misreadings[21].

Based on preliminary classroom observations conducted at Hubulo boarding school prior to this study, students were frequently observed relying on word-by-word literal translation strategies rather than processing Arabic sentences as integrated syntactic units. This pattern was reflected in their reading behaviour: students paused repeatedly at unfamiliar lexical items, failed to project sentence continuations, and produced fragmented interpretations that did not cohere at the discourse level. These observational findings are consistent with documented tendencies in Arabic L2 reading research, where over-reliance on lexical decoding at the expense of structural processing has been identified as a primary obstacle to fluent comprehension. Notably, this problem has not been systematically addressed within Arabic language instruction at the MTs level, particularly through a cognitive-linguistic framework such as syntactic anticipation an approach that, to date, has been more extensively theorised and empirically examined in the context of English or other first languages than in Arabic as a foreign or second language

Existing research on Arabic reading in Indonesia has concentrated largely on phonological dimensions (tajwid, reading fluency), vocabulary acquisition (mufradat), and culturally responsive pedagogy, leaving the cognitive-linguistic dimension of syntactic anticipation substantially underexplored [23]. Despite its strong theoretical grounding notably in the interactive compensatory model (Goodman & Smith) and the garden-path model of sentence processing syntactic anticipation has yet to be empirically operationalised as an independent variable in Arabic reading comprehension research at the MTs level. This study therefore aims to address that gap by examining the relationship between syntactic anticipation ability and qirā'ah fahmiyyah among students at Hubulo boarding school, with the hypothesis that stronger syntactic anticipation capacity will be associated with significantly higher Arabic reading comprehension scores.

When learning Arabic as a second language (L2), many students encounter difficulties understanding texts because of factors like diglossia, Arabic orthography, and the absence of vocalization in learning materials. Saiegh Haddad's research indicates that diglossia and the orthographic features of Arabic greatly influence reading comprehension [22]. Indicates that the reading process in the Arab context is more complex than mere phonetic decoding. Additionally, Alseraye's research shows that Arab L2 learners struggle with garden-path sentences, which are ambiguous structures lacking diacritics. This suggests that the absence of vocalization (diacritics) can hinder, or even interrupt, syntax and semantic processing. Additionally, learning strategies play a crucial role in addressing challenges in reading comprehension. While syntax anticipation is a very effective tool, mastering reading comprehension remains difficult in educational settings. This highlights the importance of a multi-faceted approach that combines syntax prediction, vocabulary reinforcement, and technology integration, enabling students to understand Arabic texts, particularly classical texts without diacritics, more effectively [23]

Based on the foregoing theoretical and empirical considerations, this study aims to examine Syntactic Anticipation and Arabic Reading Comprehension among Hubulo Boarding School Students. Specifically, the study seeks to determine whether and to what degree students capacity to predict syntactic structures based on *nahwu* competence contributes to their performance in comprehending Arabic texts without harakat. It is hypothesised that there is a significant positive relationship between syntactic anticipation ability and Arabic reading comprehension of unvocalised texts: students who demonstrate stronger syntactic anticipation will achieve measurably higher reading comprehension scores. To test this hypothesis the study adopts a quantitative correlational design, enabling an objective and statistically grounded evaluation of the directional relationship between these two cognitive-linguistic variables. This aligns with research by Alzahrani & Almalki, which indicates that the activation of syntax structures significantly contributes to understanding Arabic text processing. Building on this foundation, the research aims

to contribute both theoretically and practically to the development of Arabic language learning strategies, particularly in syntax and in the ability to comprehend texts without diacritics, which are key features of kitab study in Islamic educational institutions.

LITERATURE REVIEW

Syntactic anticipation refers to the readers cognitive capacity to project the grammatical structure and functional role of upcoming linguistic elements before the full sentence has been processed a mechanism that is particularly consequential in Arabic, where word order, case endings (*i'rab*), and morphological inflection interact to determine meaning [24]. In the context of unvocalised Arabic texts (*kitab turots*), where diacritical markers (*harakat*) are absent, this anticipatory capacity becomes the primary interpretive resource available to the reader: without phonological scaffolding, accurate comprehension depends on the reader's ability to draw on internalized *nahwu* schemata to assign grammatical roles and recover propositional content [25]. Reading comprehension in this context or *maharah qira'ah* therefore extends beyond surface decoding to encompass the active, structurally guided construction of meaning, positioning syntactic anticipation not as a peripheral skill but as a foundational cognitive mechanism underlying successful Arabic text comprehension among non-native readers

The theoretical foundation of this study draws on several cognitive and psycholinguistic frameworks that collectively account for the mechanism of syntactic anticipation in Arabic reading. First, the predictive processing framework Clark posits that the brain continuously generates top down predictions about incoming linguistic input based on prior knowledge; in Arabic reading, this translates to the reader's active deployment of *nahwu* schemata to anticipate grammatical structures before they are fully encountered in the text [26]. Second, syntactic priming theory Branigan & Pickering demonstrates that prior exposure to specific syntactic constructions facilitates faster and more accurate processing of structurally similar subsequent input a mechanism directly relevant to how repeated engagement with classical Arabic structures may enhance anticipatory reading performance [27]. Third, the interactive compensatory model Stanovich holds that higher-order linguistic knowledge, including syntactic competence, compensates for lower-level processing deficits; this is particularly pertinent in unvocalised Arabic reading, where the absence of *harakat* requires readers to rely on structural inference rather than phonological decoding. Finally, the construction-integration model Kintsch frames reading comprehension as a two-stage process of constructing propositional representations and integrating them into coherent mental models a process in which syntactic anticipation plays a decisive role by pre-structuring the propositional frame before full lexical input is available [28].

A growing body of empirical literature supports the relationship between syntactic knowledge and Arabic reading comprehension, though studies vary considerably in their focus, participants, instrumentation, and reported effect sizes. Faruq et al., examining Arabic reading performance among undergraduate students at an Indonesian Islamic university, employed a structured grammatical parsing task as the measure of syntactic competence and a standardised passage comprehension test as the dependent variable; their findings yielded a strong positive correlation ($r = .67, p < .01$), indicating that depth of syntactic knowledge was a robust predictor of reading accuracy [29]. However, their study was limited to vocalised texts, leaving open the question of whether the same relationship holds under the more cognitively demanding conditions of unvocalised reading. Addressing a more analogous context, a subsequent study focused on MTs level students exposed predominantly to classical pesantren materials and found that syntactic structure recognition assessed through an *i'rab* identification instrument significantly predicted comprehension scores on unvocalised passages ($r = .59, p < .05$). Nonetheless, this study did not isolate syntactic anticipation as a forward-directed cognitive process; rather, it measured post-hoc grammatical recognition, which represents a conceptually distinct construct. Taken together, these studies establish a consistent empirical pattern while also revealing a methodological gap: no prior

study has directly operationalised syntactic anticipation as a predictive, real-time processing capacity and examined its correlation with unvocalised Arabic reading comprehension specifically among junior high school students in a pesantren setting, which constitutes the precise focus of the present investigation.[30].

Reading comprehension is commonly theorised through the Simple View of Reading (SVR), which posits that comprehension is a multiplicative product of decoding and language comprehension [31]. In the context of unvocalised Arabic texts, however, both components operate under conditions that differ substantially from those assumed in the original SVR formulation. At the decoding level, the absence of harakat means that graphemic input is inherently ambiguous: a single consonantal string may correspond to multiple lexical items with distinct grammatical roles and meanings, and the reader cannot resolve this ambiguity through phonological recoding alone. Successful decoding therefore requires the simultaneous activation of syntactic and morphological knowledge—particularly *i'rab* assignment—to determine the correct lexical reading before word recognition can proceed.

At the language comprehension level, the diglossic gap between colloquial Arabic and the literary register characteristic of classical and religious texts further complicates processing: students whose oral language experience is grounded in vernacular varieties must draw on explicitly learned grammatical schemata, rather than implicit native-speaker intuitions, to construct propositional meaning from the text [32]. Consequently, syntactic anticipation—the forward-directed deployment of *nahwu* knowledge to pre-structure incoming grammatical information—functions as a mediating mechanism between these two SVR components, compensating for the absence of phonological cues at the decoding stage while simultaneously supporting the structural integration required for language comprehension. This suggests that for unvocalised Arabic reading, the SVR framework requires modification to incorporate syntactic anticipation as an independent and theoretically motivated cognitive variable.

It is necessary at this point to distinguish three related but conceptually distinct constructs that are frequently conflated in the literature. Syntactic knowledge refers to the declarative representation of grammatical rules—the reader's explicit understanding of *nahwu* principles such as case government, agreement, and sentence constituency; it is a static, stored resource that can be assessed through metalinguistic tasks such as grammaticality judgement or rule identification [33]. Syntactic awareness, by contrast, denotes the metacognitive capacity to reflect on and manipulate syntactic structures consciously; it involves the reader's ability to recognise structural anomalies and monitor grammatical well-formedness during processing, but does not necessarily entail forward-directed prediction. Syntactic anticipation, the focal construct of the present study, is defined as the online, predictive deployment of syntactic knowledge during reading: the reader's capacity to project the probable grammatical structure, functional role, and positional constraints of upcoming linguistic elements based on partial input and internalized structural schemata [34].

This distinction matters empirically because the three constructs, while correlated, are not interchangeable: a reader may possess adequate declarative syntactic knowledge yet fail to deploy it anticipatorily under real-time processing demands, particularly in cognitively taxing conditions such as unvocalised Arabic text. Evidence from syntactic priming research supports this dissociation, demonstrating that priming effects—which index anticipatory structural activation—operate independently of explicit grammatical knowledge scores in L2 Arabic learners, and that classroom-based priming interventions improve comprehension performance precisely by training the anticipatory rather than the declarative dimension of syntactic competence [35]. In the present study, it is therefore syntactic anticipation operationalised as a forward-directed, real-time processing capacity that constitutes the independent variable under investigation, not syntactic knowledge or awareness.

Unvocalised Arabic text is the norm rather than the exception in the materials most commonly encountered in pesantren educational contexts. Classical Islamic jurisprudential and theological texts collectively referred to as *kitab tuots* are written entirely without *harakat*, as are the vast majority of classical grammatical references such as the *Ajurrūmiyyah* and *Alfiyyah Ibn Mālik* that form the backbone of *nahwu* instruction at boarding schools [36][37]. This orthographic convention extends broadly across classical Arabic literature, scholarly commentaries, and the instructional materials routinely used in MTs classrooms in direct contrast to the standard printed which is fully vocalised precisely to preserve recitational accuracy. The cognitive consequences of this absence of diacritical marking are well documented: neurocognitive research and controlled reading experiments demonstrate measurable increases in processing load, reflected in differential patterns of brain activation as well as statistically significant decrements in both reading speed and comprehension accuracy when participants process unvocalised compared to fully vocalised Arabic text [38]. These findings underscore that reading *kitab tuots* and analogous unvocalised classical materials imposes substantially greater demands on the reader's syntactic and morphological inferencing capacities, making predictive strategies most critically, syntactic anticipation an indispensable compensatory mechanism for recovering phonological and grammatical information that is absent from the orthographic surface

Literature reviews and empirical research indicate that morphological awareness and metalinguistic skills, such as syntax awareness, are strong predictors of Arabic reading proficiency [39]. These factors tend to be more influential than phonological skills at advanced levels [40]. This is important because the ability to predict syntax structures falls under syntax and metalinguistic awareness and can enhance understanding, particularly when phonological cues (*harakat*) are absent [41]. Several studies on L2 Arabic learners, including students from boarding schools and Islamic boarding schools, have shown that interventions focusing on activating syntax structures, such as priming, sentence pattern exercises, and *i'rab* training, result in improvements in both understanding and producing syntax tasks [13]. Classroom research and quasi-experimental studies in learning environments confirm that structured syntax training aids readers in resolving ambiguities resulting from missing context diacritics [12]. Most studies remain at the laboratory level or focus on L2 students in formal settings, with relatively few research efforts involving boarding school students who often read religious texts.

METHOD

A. Design

This study employs a quantitative correlational design of an explanatory nature, aimed at examining the direction and strength of the association between syntactic anticipation ability and Arabic reading comprehension of unvocalised texts, without administering any experimental treatment or manipulation to participants [42]. The explanatory correlational approach was selected rather than a predictive or experimental design because the primary objective of this study is to determine whether a statistically meaningful association exists between the two variables and to describe the nature of that relationship, not to establish causal directionality or forecast individual outcomes. Specifically, the study seeks to explain the extent to which variation in students' syntactic anticipation capacity co-varies with variation in their reading comprehension performance on unvocalised Arabic passages.

This design is consistent with established practice in Arabic language and second-language acquisition research, where correlational methods have been widely employed to examine relationships among linguistic competence variables under naturalistic learning conditions [43]. It is important to note that, given the non-experimental nature of this design, the findings will be interpreted in terms of association and co-variation rather than causation or effect any directionality inferred from the results reflects theoretical reasoning grounded in the literature rather than

experimental evidence. Creswell states that correlational research enables researchers to identify patterns of relationships between variables using empirical data without direct intervention. This approach is appropriate for educational research focused on prediction or mapping relationships [44]

B. Population and Sample

The target population of this study comprises all MTs (Madrasah Tsanawiyah) students at Hubulo Islamic Boarding School, Gorontalo, enrolled in the 2025/2026 academic year. The population is drawn specifically from Grade VIII and Grade IX, as students at these levels have completed at least one full year of formal *nahwu* instruction and possess foundational competence in recognising basic Arabic syntactic structures, including subject-predicate (*mubtada-kehabar*), verbal sentences (*jumlah fi'liyyah*), and genitive constructions (*mudhaf-mudhaf ilayh*). Grade VII students were excluded from the population on the grounds that they are still in the introductory phase of *nahwu* acquisition and have had limited systematic exposure to unvocalised classical texts. The total population consists of 87 students distributed across four classes: two Grade VIII classes (VIII-A: 22 students; VIII-B: 21 students) and two Grade IX classes (IX-A: 23 students; IX-B: 21 students), all of whom receive Arabic language instruction using unvocalised *kitab turots* materials as part of the pesantren curriculum [45].

Sampling was conducted using proportionate stratified random sampling, in which each grade stratum (Grade VIII and Grade IX) was represented proportionally in the final sample. This technique was selected over simple random sampling to ensure that both grade levels which may differ systematically in their level of *nahwu* competence and reading experience were adequately represented, and over purposive sampling to preserve the randomness necessary for statistical generalisation within the population. From each class, participants were selected randomly in proportion to class size, yielding a total sample of 60 students (Grade VIII: 30 students; Grade IX: 30 students). This sample size satisfies the minimum threshold recommended for Pearson product moment correlation analysis, which requires a minimum of 30 participants to achieve adequate statistical power.

C. Research Variable

Variable X – Syntax Anticipation Ability

Syntax Anticipation Ability measures students' capacity to forecast the syntactic structure of an Arabic sentence before all components are presented. This ability represents an aspect of syntax prediction, a cognitive process demonstrated to be involved in Arabic language processing.

Operationalization of the Variable:

This variable is broken down into three measurable indicators:

1. Ability to identify the predicate element (*kehabar/fi'l*) that will appear based on the subject already presented
2. Ability to anticipate a nominal phrase pattern (*jumlah ismiyyah*) or verbal phrase pattern (*jumlah fi'liyyah*) based on the opening word of the sentence
3. Ability to select the grammatically correct sentence continuation in accordance with Arabic syntactic rules (*i'rab*)

Table 1. Instrument & Scoring

Component	Description
Number of items	20 items
Item format	Multiple choice (4 options) and sentence completion (fill-in-the-blank)
Scoring format	Dichotomous scoring: correct = 1, incorrect = 0

Score range	0 – 20
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Variable Y – Arabic Unvocalized Text Comprehension

Arabic Unvocalized Text Comprehension measures students capacity to comprehend Arabic sentences written without vowel markers (harakat) by analyzing meaning, grammatical case (*i'rab*), and word function within the sentence. This variable is consistently referred to as Arabic Unvocalized Text Comprehension throughout the manuscript, replacing all previous varying terms (reading comprehension, *maharah qira'ah*, and understanding sentences) to ensure terminological consistency

Operationalization of the Variable:

This variable is broken down into three measurable indicators:

1. Ability to determine word meaning based on contextual clues without vowel assistance
2. Ability to identify grammatical case (*i'rab*) of words in unvocalized sentences
3. Ability to identify word function (subject, predicate, object, etc.) within the sentence structure

Table 2. Instrument & Scoring

Component	Description
Number of items	20 items
Item format	Multiple choice (4 options) and short answer
Scoring format	Dichotomous scoring: correct = 1, incorrect = 0
Score range	0 – 20

D. Instrumen Penelitian

Test of Syntax Anticipation Ability

The Test of Syntax Anticipation Ability is arranged into three task types: (1) a sentence completion task, (2) prediction of *i'rab* positions, and (3) determination of word structure based on context. This model follows the design of a syntax predictive test employed in Arabic syntax priming research on learners.

Table 4. Test Blueprint

No	Indicator	Task Type	Number of Items	Item Numbers
1	Ability to anticipate predicate element (<i>khabar/fi'l</i>) based on given subject	Sentence Completion	8	1–8
2	Ability to predict <i>i'rab</i> position of upcoming words	<i>I'rab</i> Position Prediction	7	9–15
3	Ability to determine word structure based on contextual clues	Word Structure Determination	5	16–20
Total			20	

Table 5. Scoring Rubric

Score	Criteria
1	Student selects the correct and syntactically appropriate answer
0	Student selects an incorrect answer or does not respond

Validity and Reliability Evidence

The instrument was reviewed by two expert judges: (1) an Arabic linguistics specialist and (2) an Arabic language education practitioner. Content validity was assessed using Aiken's V formula. Items with Aiken's $V \geq 0.75$ were retained, indicating acceptable content validity. Construct validity was examined through Exploratory Factor Analysis (EFA). Items with a factor loading ≥ 0.30 were retained as valid indicators of the syntax anticipation construct. Reliability, internal consistency reliability was estimated using Cronbach's Alpha. A coefficient of $\alpha \geq 0.70$ is considered acceptable for research instruments. Pilot testing will be conducted on 30 students outside the main sample prior to the main data collection.

Table. 6 Validity and Reliability Evidence

Validity/Reliability Measure	Target Standard	Result (Pilot)
Aiken's V (Content Validity)	≥ 0.75	To be reported after pilot
Factor Loading (Construct Validity)	≥ 0.30	To be reported after pilot
Cronbach's Alpha (Reliability)	≥ 0.70	To be reported after pilot

Arabic Unvocalized Text Comprehension Test

The Arabic Unvocalized Text Comprehension Test measures students' ability to comprehend Arabic sentences written without vowel markers (*harakat*) by selecting the correct meaning and recognizing sentence structure. This instrument is based on an undiacritized reading task model used in neurolinguistic research on Arabic L2 learners. The reading texts used in this instrument were drawn from the following sources to ensure authenticity and appropriateness

Table 7. Text Source

No	Source	Text Type	Rationale
1	<i>Durusullugh</i> (Level 2)	Narrative & descriptive passages	Widely used Arabic textbook at intermediate level
2	Simplified Arabic newspaper excerpts (<i>Al-Arabi al-Muyassar</i>)	Informational texts	Authentic unvocalized texts representative of real-world reading
3	Researcher-constructed sentences	Controlled syntax structures	Designed to target specific grammatical structures (<i>i'rab</i>)

Difficulty Level

Table 8. Text difficulty was determined based on the following criteria

Criterion	Description
Vocabulary level	Intermediate – words familiar to students at B1–B2 Arabic proficiency level
Sentence length	8–15 words per sentence
Syntactic complexity	Includes nominal sentences (<i>jumlah ismiyyah</i>), verbal sentences (<i>jumlah fi'liyyah</i>), and relative clauses (<i>jumlah wasfiyyah</i>)
Absence of harakat	All texts are fully unvocalized to measure autonomous comprehension

E. Data Collection Technique

Data was collected through three instruments: (1) a Syntax Anticipation Ability Test, (2) an Arabic Unvocalized Text Comprehension Test, and (3) an optional brief interview to gather supporting qualitative data. All data collection adhered to the standards of experimental Arabic-language research using paper-based tests. The following section describes the chronological procedure undertaken throughout the data collection process.

1. Administrative Permission

Prior to data collection, the researcher obtained formal written permission from the Dean of the Faculty, the Head of the Arabic Language Education Study Program, and the course lecturer. All permissions were secured at least two weeks before the scheduled test date.

2. Informed Consent

All participants received a written informed consent form outlining the research purpose, voluntary participation, confidentiality of results, and the academic-only use of data. No student was permitted to participate without a completed and signed consent form.

3. Test Schedule and Duration

The testing session was held during regular morning class hours (07.00–10.00) to ensure optimal cognitive readiness. The Syntax Anticipation Ability Test was administered first (40 minutes), followed by a 10-minute rest interval, then the Arabic Unvocalized Text Comprehension Test (40 minutes). The optional brief interview (10–15 minutes) was conducted afterward with willing participants only, bringing the total session duration to approximately 105 minutes.

4. Test Supervisors

The session was supervised by the researcher as lead supervisor, supported by one assistant supervisor. The course lecturer was present as an institutional observer without interfering in test administration. A minimum supervisor to student ratio of 1:20 was maintained throughout the session.

5. Testing Conditions

Tests were conducted in a regular classroom with adequate lighting and ventilation. Participants were seated individually with sufficient distance to prevent copying. Only pens or pencils were permitted; dictionaries, notes, and electronic devices were strictly prohibited. Standardized instructions were delivered both verbally and in written form on the test sheet, and silence was maintained throughout the session.

6. Bias Prevention

Several measures were applied to minimize bias. Test order was fixed, with the Syntax Anticipation Test always preceding the Comprehension Test to maintain construct independence. Standardized instructions were used to prevent researcher interference. Participants were informed that results would not affect their academic grades to reduce social desirability bias. All participants completed both tests simultaneously in the same room under identical conditions to eliminate environmental bias.

F. Data Analysis Techniques

Prior to hypothesis testing, the assumptions underlying the Pearson correlation were examined. Normality of the distribution of each variable was assessed using the Shapiro-Wilk test, which is appropriate given the sample size of this study ($N = 60$), with the assumption considered satisfied if $p > 0.05$. Linearity of the relationship between syntax cognitive anticipation ability and reading comprehension was assessed using the linearity test (deviation from linearity in ANOVA),

with the assumption considered satisfied if the deviation from linearity was not statistically significant ($p > 0.05$). Data analysis was conducted using: (1) Pearson Product-Moment correlation test, (2) normality test, (3) linearity test [46]. Pearson is selected because it is appropriate for numerical data and linear relationships between variables, and was applied only after the normality and linearity assumptions described above were confirmed to be satisfied. Had either assumption not been met, the non-parametric Spearman rank-order correlation was planned to be used instead, as it does not require a normal data distribution. This method is frequently employed in research examining the connection between syntax awareness and reading ability. Interpretation of the correlation value follows Cohen's standards: 0.10 = low, 0.30 = moderate, 0.50 = strong [47].

RESULTS

Research Data Description

This study aims to examine the relationship between syntactic cognitive anticipation ability and Arabic reading comprehension ability without diacritics among students of Hubulo Boarding School. Data were collected from a sample of 60 students, selected through proportionate stratified random sampling from a total population of 130 students. The collected data were then analyzed using descriptive statistics to provide an overview of each variable, followed by Pearson correlation analysis to examine the relationship between the two variables. Prior to conducting the correlation test, descriptive statistics for both research variables namely syntactic cognitive anticipation ability Syntax Cognitive Anticipation Test and Arabic reading comprehension ability without diacritics (Reading Comprehension Without *Harokat*) are presented in table.

Table 9. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	SD
Syntax Cognitive Anticipation Test	60	45	95	75.20	6.5
Reading Comprehension Without <i>Harokat</i>	60	40	90	70.45	7.5

As shown in table 1, the mean score for students' syntactic cognitive anticipation ability was 75.20 (SD = 6.5), with scores ranging from 45 to 95. Meanwhile, the mean score for reading comprehension ability without diacritics was 70.45 (SD = 7.5), with scores ranging from 40 to 90. These data were obtained from a sample of 60 students, drawn through proportionate stratified random sampling from a population of 130 students at Hubulo Boarding School.

Table 1. Results of the Syntax Cognitive Anticipation Test and Reading Comprehension Ability Without *Harokat*

		Syntax Cognitive Anticipation Test	Reading Comprehension Ability Without <i>Harokat</i>
Syntax Cognitive Anticipation Test	Pearson Correlation	1	.534**
	Sig. (2-tailed)		.000
	N	60	60
Reading Comprehension Ability Without <i>Harokat</i>	Pearson Correlation	.534**	1
	Sig. (2-tailed)	.000	
	N	60	60

The Pearson correlation test results indicate a significant positive relationship between syntactic cognitive anticipation ability (X) and reading comprehension of sentences without diacritics (Y), $r(58) = 0.534, p < 0.001, N = 60, 95\% \text{ CI } [0.32, 0.69]$. This result indicates that students with better syntactic anticipation skills tend to demonstrate more effective reading comprehension of sentences without diacritics. With a correlation coefficient of 0.534, the relationship between these two variables is classified as moderate and statistically significant.

DISCUSSION

Interpretation of the Correlation between Syntactic Anticipation and Reading Comprehension

The results of this study show a moderate, statistically significant positive correlation between syntactic cognitive anticipation ability and Arabic reading comprehension without diacritics, $r(58) = 0.534, p < 0.001, 95\% \text{ CI } [0.32, 0.69]$. This finding indicates that approximately 28.5% of the variance in reading comprehension scores ($r^2 = 0.285$) is associated with syntactic anticipation ability, suggesting that while syntactic anticipation is a meaningful contributor to comprehension performance, other linguistic competencies such as vocabulary knowledge and morphological awareness likely account for the remaining variance. This pattern aligns with the predictive processing framework [29], which posits that readers continuously generate top down grammatical predictions based on prior *nabwu* schemata; students with stronger anticipatory processing appear better equipped to resolve structural ambiguity in unvocalized text.

The result is further consistent with syntactic priming theory [30], as repeated exposure to classical Arabic constructions likely strengthened participants' ability to anticipate similar structures during the comprehension task. Within the interactive-compensatory model, the moderate (rather than strong) correlation observed here is expected: syntactic competence is one of several compensatory mechanisms readers draw upon in the absence of harakat, alongside contextual and lexical inference, which explains why syntactic anticipation alone does not account for the majority of variance in comprehension scores. Likewise, the construction-integration model [31] helps explain *why* the relationship is positive rather than merely correlational in nature: syntactic anticipation pre-structures the propositional frame that readers later integrate with lexical and contextual information, making it a logical antecedent though not the sole determinant of comprehension success.

These findings carry both theoretical and pedagogical implications. Theoretically, the moderate effect size supports a multi-component view of Arabic reading comprehension, in which syntactic anticipation functions as one of several interacting competencies rather than a standalone predictor [48]. Pedagogically, the results suggest that explicit instruction in syntactic pattern recognition may meaningfully support students' comprehension of unvocalized texts, and could be incorporated into Arabic reading curricula at boarding schools such as Hubulo, where students regularly encounter diacritic-free classical and religious texts [49]. This study is not without limitations. First, the sample was limited to 60 students from a single institution, which may constrain the generalizability of the findings to other populations or educational settings. Second, the cross-sectional, correlational design does not permit causal inferences regarding the direction of the relationship between syntactic anticipation and reading comprehension. Third, reading comprehension was measured using only diacritic-free texts; future studies could compare performance across diacritized and non-diacritized conditions to more precisely isolate the contribution of syntactic anticipation. Future research employing longitudinal or experimental designs with larger, more diverse samples is recommended to further clarify this relationship [50].

The core of cognitive anticipation in students is their mental capacity to foresee, evaluate, and predict upcoming information before it appears, in language and reading learning, cognitive

anticipation involves students using their prior knowledge, recognizing language patterns, and using syntax cues to infer the meanings, sentence structures, or words that are not immediately visible or incomplete [51]. This prediction process functions across various levels, including semantic, syntax, morphological, and phonological representations. It is probabilistic, with students weighing options based on context and previous experience [52]. The ability to understand sentence structure refers to how the brain recognizes sentence patterns, such as the order of verb–subject–object, word forms (noun, verb, particle), grammatical relations, and meaning based on word position [53]. In other words, this illustrates how the brain automatically processes *nahwu*. Cognitive syntax involves predicting sentence structure, including determining the subject and object, predicting the likely next word, and understanding how meaning shifts with changes in *i'rāb*. This is called syntax anticipation, the brain's ability to predict the structure of a sentence before reading the entire sentence.

When reading Arabic text without diacritics, students must draw on grammar rules, prior reading experience, contextual meaning, and morphological analysis. All of these are syntax cognitive processes [54]. A simple example is the Arabic sentence without diacritics كتب الطالب الدرس (The student wrote the lesson). To understand the meaning, the brain predicts the position of الطالب as the subject (*fā'il*), recognizes that الدرس is the object (*maf'ul*), and concludes the meaning. This is a cognitive-syntactic operation occurring simultaneously. This mechanism is reflected empirically in the present findings, where syntactic cognitive anticipation showed a moderate, significant correlation with reading comprehension performance, $r(58) = .534$, $p < .001$. The magnitude of this correlation indicates that syntactic prediction such as anticipating subject–object positions in the example above meaningfully supports comprehension, but does not fully determine it: syntactic anticipation accounts for only part of the variance in comprehension scores ($r^2 = .285$), leaving the majority of variance attributable to other factors such as vocabulary knowledge, contextual inference, and morphological analysis. In other words, the act of predicting الطالب as *fā'il* and الدرس as *maf'ul* is a necessary cognitive step in resolving meaning, but successful comprehension of the full sentence still depends on the reader's broader linguistic and contextual competence. This supports the interpretation that syntax functions as a contributing rather than singular mechanism within the larger process of reading comprehension in unvocalized Arabic text.

Relevant types of predictions for reading

Real-time language processing involves three main types of prediction: (1) lexical-semantic prediction, anticipating the most likely upcoming word or meaning based on context; (2) syntactic prediction, anticipating grammatical structure and roles such as subject, object, or verb; and (3) phonological prediction, anticipating the pronunciation or spelling of an upcoming word. Visual-world eye-tracking meta-analyses indicate that phonological prediction exerts only a small, though consistent, effect, whereas syntactic and semantic prediction show a more pronounced and stable influence on comprehension [55][56]. This pattern has direct relevance for reading Arabic texts without diacritics, where phonological cues are largely unavailable and readers must rely instead on syntactic and semantic prediction to resolve meaning. This suggests that *qirā'ah* training for unvocalized texts should prioritize structural and contextual prediction exercises such as anticipating grammatical roles (*fā'il*, *maf'ul*) and likely sentence continuations over pronunciation-based drilling, since these are the prediction types shown to contribute most substantially to comprehension accuracy in the absence of *harakat*.

Relevance for learning and unvowelled text

When reading Arabic without diacritics, syntax and morphological anticipation is essential; readers need to infer the *i'rāb* and word forms before vocalization appears. This skill decreases ambiguity and accelerates understanding of meaning [57]. Therefore, exercises that activate syntax structures such as priming and fill-in-the-blank sentences may enhance reading comprehension in these contexts. Zhang & Koda suggest that anticipation during reading involves predicting based

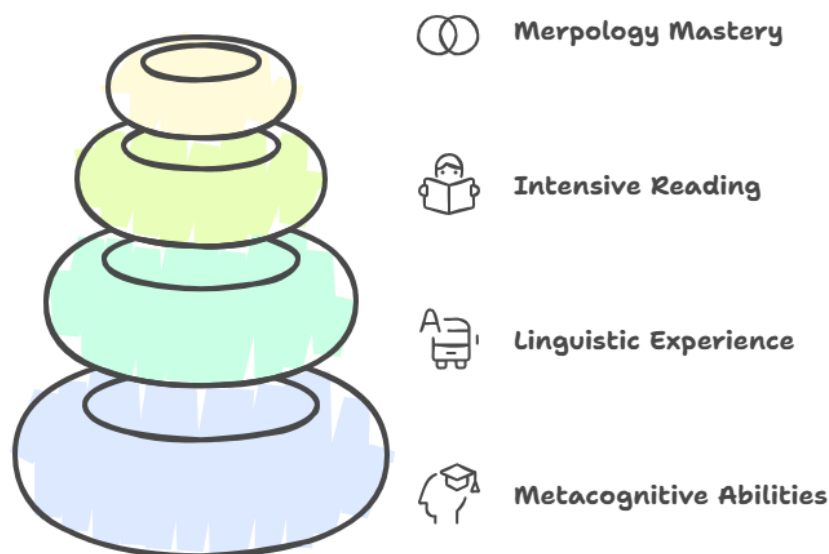
on linguistic experience and learned syntax structures. In literacy research, anticipation is a component of 'top-down processing,' a strategy where readers predict upcoming content based on language patterns. Perfetti & Stafura note that cognitive predictions help readers recognize sentence structures and meanings more quickly and effectively [58].

Cognitive Anticipation Functions for Students

Making Text Comprehension Easier, students can comprehend the text despite some missing elements. According to Rayner, syntax prediction enhances the accuracy of interpreting complex sentence structures [59]. Improving Reading Efficiency, readers do not need to spell out each word individually; instead, they analyze language patterns. Researchers note that the capacity to predict speeds up the decoding process. Focusing Attention on Important Information, the anticipatory process helps students reduce cognitive load by allowing them to ignore irrelevant parts of a sentence. Multiple psychological studies indicate that prediction significantly enhances working memory during this process of reading.

Cognitive Anticipation in Arabic Language Learning

When students read Arabic texts without diacritics, they rely on three main cues: (1) the verb subject object pattern, (2) their understanding of syntax, and (3) contextual clues. Language experts highlight that Arabic readers depend heavily on syntax predictions when reading unvowelized texts, as grammatical markers are missing to clarify meaning. This predictive ability affects how they identify the subject (*fa'il*), the object (*maf'ul*), and the overall sentence structure whether it is verbal or nominal.[60]



Picture 1. Factors Influencing Cognitive Anticipation

In the research context, the relationship between the ability to anticipate syntax structure and the understanding of *Maharotul Qiroah* without *harakat* is explored. The importance of cognitive anticipation is considered very crucial. Nouf bin Sawad's research indicates that the capacity to anticipate syntax structures is directly linked to the proficiency level in intermediate Arabic reading comprehension [41]. In reading instruction, anticipation reduces cognitive load by prestructuring or meaning-making, facilitating the smoother integration of upcoming words or sentences [61]. In unvowelized Arabic text, understanding syntax and morphology is very important because students need to infer *i'rab* and word forms without clear vowel marker indicators [62]. The literature indicates that metalinguistic awareness, including morphological and syntax awareness, is a strong predictor of reading comprehension in Arabic. Consequently, cognitive anticipation is closely connected to this relationship skill.

Research with L2 learners and field studies indicate that techniques activating syntax structures can improve access to grammatical representations and support comprehension. However, the success of prediction varies based on personal factors such as vocabulary skills, reading experience, and metacognitive strategies. Consequently, prediction skills should be developed alongside vocabulary building and morphological exercises. In teaching practice, fostering students' cognitive anticipation through methods such as pre-reading activities, priming exercises, and pattern recognition is crucial for enhancing their ability to understand plain texts in boarding school.

Table 10. Data on the Relationship Between Anticipation Syntax and *Maharotul Qirā'ah*

No	Data	Information	Explain
1	Cognitive Syntax Anticipation Ability	Representing students' mental capacity in predicting grammatical structures while reading	Having a strong anticipation ability has been shown to enhance the accuracy of comprehending unvowelized Arabic text and to speed up decoding.
2	Excellent reading or recitation without <i>Harakat</i> .	Students' capacity to comprehend Arabic texts without diacritics (<i>harakat</i>).	Requires syntax awareness, lexical knowledge, and predictive skills.
3	Awareness of Grammatical Structure	Students' ability to recognize Arabic sentence patterns.	Demands knowledge of syntax, vocabulary, and the skill to infer structure from context.
4	Challenges in Reading Arabic Texts	Common challenges students encounter when reading Arabic texts, particularly without diacritics.	Difficulties often occur in identifying the subject and the predicate, determining the doer, and selecting the correct verb or noun.

Research shows a moderate, meaningful positive correlation between the ability to anticipate syntax and understanding maharotul qirā'ah ($r = 0.534$; $p < 0.01$; $N = 60$). To contextualize the strength of this relationship, the coefficient of determination (r^2) was calculated, yielding $r^2 = 0.285$. This indicates that syntactic anticipation ability accounts for approximately 28.5% of the variance in unvowelized reading comprehension scores. In essence, students who are better at predicting syntax structures tend to have a stronger grasp of unvowelized sentences. However, since syntactic anticipation explains less than a third of the total variance, the remaining 71.5% is attributable to other factors such as vocabulary mastery, contextual inference, and morphological knowledge confirming that while syntax anticipation is an important contributor, it is not the sole factor affecting comprehension of unvowelized reading.

This suggests that students with a greater ability to anticipate the syntax structure of Arabic texts such as identifying sentence patterns, i'rab functions, and word relationships before fully reading tend to demonstrate stronger overall comprehension of unvowelized reading material. This result supports the interactive-compensatory model theory, which indicates that an effective reader actively combines linguistic knowledge, such as syntax, with contextual cues to construct meaning [63]. In learning Arabic, syntax anticipation skills help students reduce cognitive load during text processing, freeing up mental resources for more advanced understanding and comprehension [64]. Furthermore, these findings corroborate earlier research by Al-Jarf, indicating

that syntax awareness is a significant predictor of reading comprehension in Arabic as a second language (L2), particularly among intermediate learners [65]. Therefore, creating a *qiroah* learning module that explicitly trains students to anticipate syntax structures, such as through sentence-prediction exercises or *mubtada'-khabar* analysis, before reading the complete text, can be an effective way to enhance Arabic reading skills in a school.

This study's results consistently align with previous research highlighting the crucial role of syntax awareness in reading comprehension, especially for Arabic as a foreign or second language. For instance, Al-Jarf's research with non-native Arab secondary students demonstrates that the ability to predict Arabic sentence structures, like identifying whether the sentence begins with *ismiyyah* or *fi'liyyah* before the whole sentence is given, shows a significant correlation ($r = 0.54$, $p < 0.01$) with reading comprehension performance [65]. Conversely, some research may find weak or insignificant links, particularly in samples of highly skilled individuals or when other factors, such as vocabulary, reading fluency, or attention, are more influential. Thus, the current findings better serve as confirmation of the Hubulo context, indicating that syntax anticipation indeed plays a role in reading, even without diacritics.

A possible contextual explanation for these findings relates to the broader learning environment of Hubulo Islamic Boarding School, where Arabic-language instruction commonly involves religious texts such as the Qur'an and classical Islamic literature *kitab tuhots* that are frequently presented without diacritics [8]. This interpretation is supported by an interview conducted with the *Nahwu* teacher, Miss Siti Aliyya Laubaha, on April 12, 2026. According to the teacher, students' overall understanding of *Nahwu* instruction was reasonably good, although their ability to read unvocalized Arabic text after learning *qawā'id* (grammatical rules) varied; some students were able to read unvocalized text competently, while others still experienced difficulty. The teacher further noted that students regularly engage with *kitab tuhots*, and that Arabic-language instruction at the school partially uses materials without diacritics, requiring students to rely on syntactic cues to construct meaning.

These findings lend contextual support to the quantitative results, suggesting that students' varying levels of syntactic anticipation ability may be associated with differences in their exposure to and practice with unvocalized texts in the boarding school environment. However, since the interview involved a single instructor and was not the primary focus of data collection, this explanation should be interpreted as complementary contextual evidence rather than a definitive causal account. Future studies incorporating systematic classroom observation or student-level data on reading habits are recommended to further substantiate this relationship. The need to understand religious texts motivates the development of effective reading strategies, such as anticipating structure, to clarify variable relationships. If Hubulo's teaching focuses on analyzing *nahwu* and *tafsir* during learning, this formal instruction improves students' ability to predict syntax, thereby boosting reading comprehension even without diacritics.

This finding supports a reading model that emphasizes syntax competence and anticipatory processing as key cognitive processes in understanding texts, especially in writing systems with few vowel cues, such as Arabic without diacritics. It underscores the importance of including syntax anticipation strategies within the framework of *Maharotul Qirā'ah*, which links decoding with comprehension. Such strategies could include exercises such as predicting word forms, recognizing sentence structures, and analyzing word functions before reading complete sentences. Some limitations should be considered when contextualizing the present findings accurately.

1. Sample size, with $N = 60$, the sample size is relatively small, limiting the generalizability of the findings to a broader population of Arabic learners. A small sample also reduces the precision of the correlation estimate, as reflected in the relatively wide 95% confidence interval (CI [.32, .69]); the true population correlation could plausibly be considerably weaker or stronger than the observed $r = .534$.

2. Cross-sectional design, data were collected at a single point in time, meaning the correlational relationship cannot establish causality. The finding that $r = .534$ indicates syntactic anticipation and reading comprehension covary, but it cannot confirm that syntactic anticipation causes better comprehension the reverse direction stronger comprehension fostering better syntactic anticipation or a bidirectional relationship remains equally plausible. This limitation directly tempers the causal language often associated with correlational interpretation and underscores that the present $r = .534$ should be read strictly as an association, not a predictive or causal effect.
3. Variable measurement, the validity and reliability of the syntactic anticipation test and the unvocalized reading comprehension test directly determine the trustworthiness of the obtained correlation. If either instrument has limited sensitivity, insufficient item coverage, or suboptimal reliability, the true relationship between the two constructs could be underestimated (attenuated) or overestimated. This means the reported $r = .534$ should be treated as an estimate bounded by the psychometric quality of the instruments used, rather than an exact population parameter.
4. Confounding variables, other factors such as vocabulary level, phonological skills, general cognitive ability (IQ), duration of Arabic language study, intensity of practice with unvocalized texts, or religious motivation were not statistically controlled in this study. Consequently, part of the observed correlation between syntactic anticipation and comprehension may be inflated by these uncontrolled third variables, meaning the unique contribution of syntactic anticipation itself may be smaller than the bivariate $r = .534$ suggests.
5. Limited context, the research was conducted at a single institution Hubulo Islamic Boarding School with specific cultural and curricular characteristics, particularly its emphasis on unvocalized religious texts. As such, the magnitude of the observed correlation may not generalize to formal public school settings or other educational contexts where exposure to unvocalized Arabic text is less frequent the relationship between syntactic anticipation and comprehension could be weaker or stronger in such settings.

These limitations suggest that the moderate correlation observed in this study ($r = .534$) should be interpreted as a context-bound, sample-specific estimate of association useful for generating hypotheses about the role of syntactic anticipation in Arabic reading comprehension, but not yet sufficient grounds for causal or broadly generalizable claims.

CONCLUSION

This study found a moderate, statistically significant positive correlation between syntactic cognitive anticipation ability and Arabic reading comprehension without diacritics among students at Hubulo Islamic Boarding School, $r(58) = .534$, $p < .001$, $N = 60$, 95% CI [.32, .69]. This indicates that students with stronger syntactic anticipation the ability to predict grammatical roles such as subject (*fā'il*) and object (*maf'ūl*) before fully reading a sentence tend to demonstrate better comprehension of unvocalized texts. However, with syntactic anticipation accounting for only about 28.5% of the variance in comprehension scores ($r^2 = .285$), the findings confirm that syntax is an important but not sole contributor to reading comprehension performance. Given the correlational and cross-sectional nature of this design, these findings should be interpreted as evidence of association rather than causation; they cannot establish whether syntactic anticipation drives comprehension, whether the reverse is true, or whether both are shaped by an unmeasured third factor.

Practically, these results suggest that *Nahwu* and Arabic reading instructors may benefit from incorporating syntactic-prediction exercises such as anticipating sentence structure and grammatical roles before full reading into instruction for unvocalized texts, given the moderate strength of this relationship. At the same time, because syntax explains less than a third of the variance in comprehension, teachers should not rely on syntax instruction alone, but should pair it

with vocabulary development and contextual reading strategies to support more comprehensive gains in reading ability. Future research employing longitudinal or experimental designs, larger and more diverse samples, and controls for confounding variables is needed to clarify the causal role of syntactic anticipation in Arabic reading comprehension.

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