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Grammatical Error Patterns and Syntactic Processing Bottlenecks in L2 Arabic Oral Reading (*Qirāʾah Jahriyyah*)

أَنْمَاطُ الأَخْطَاءِ النَّحْوِيَّةِ وَعَقَبَاتُ المَعَالَجَةِ التَّرْكِيْبِيَّةِ فِي القِرَاءَةِ الجَهْرِيَّةِ لَدَى نَاطِقِي اللُّغَةِ العَرَبِيَّةِ بِغَيْرِهَا

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Abstract

Oral reading of unvowelized Arabic texts (*qirāʾah jahriyyah* / **قراءة جهرية**) requires the real-time integration of syntactic and morphological knowledge. Although previous research has documented general grammatical difficulties in second-language Arabic, the cognitive-processing mechanisms underlying breakdowns during live text vocalization remain underexplored. This qualitative case study employed Error Analysis to examine transcribed oral-reading performances on the diagnostic text *Naṣāʾiḥ al-Ab wa Ijtihād al-Ibn* among four focal participants in the Program Iman Specialization (*Al-Program Al-Takhassusi*) at STAI Ali Bin Abi Thalib Surabaya. The findings showed that grammatical errors clustered systematically around inflectional case assignment (*iʿrāb* / **إعراب**), construct-state formation (*iḍāfah* / **إضافة**), and complement realization (*mafāʿīl* / **مفاعيل**). The analysis further identified a Nominative Default Bias (*Marfūʿāt Default* / **الانحياز**

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الافتراضـــي للمرفوعات), whereby learners tended to produce nominative forms under cognitive overload, as well as a Declarative–Procedural Gap, in which their demonstrated mastery of grammatical rules in isolated *ʿilm al-naḥw* (*علم النـحـو*) exercises did not transfer to continuous oral reading. These findings indicate that oral-reading deviations arise primarily from real-time syntactic-processing bottlenecks rather than underlying grammatical-competence deficits. The study contributes to second-language Arabic acquisition research by distinguishing online processing failure from declarative grammatical knowledge and highlights the need to reorient Arabic instruction from static rule memorization toward speeded sentence-parsing exercises and targeted oral corrective feedback.

Keywords: Error Analysis; Nominative Default Bias; Oral Reading; Real-Time Syntactic Processing; Second-Language Arabic Acquisition

INTRODUCTION

Arabic holds significant religious, cultural, and intellectual importance worldwide, increasingly taught as a second or foreign language across diverse educational contexts. For foreign language learners, reading is a fundamental skill that provides access to academic knowledge, religious texts, and authentic linguistic input. However, reading in Arabic extends beyond simple lexical recognition; it requires the dynamic interaction of orthographic, phonological, morphological, syntactic, and semantic knowledge to construct meaning from written texts (Idrissi et al., 2025; Shahbari-Kassem et al., 2025; Sun et al., 2026; Tong et al., 2025).

The complexity of Arabic reading is closely linked to its writing system. Unlike fully vowelized texts, Modern Standard Arabic is typically presented without short-vowel diacritics, despite these vowels conveying essential phonological and grammatical information. Short vowels facilitate word recognition, syntactic role identification, and the disambiguation of written forms. Empirical studies show that diacritics, morphology, and sentence context significantly influence reading accuracy, speed, and comprehension among non-native learners (Boudelaa & Rastle, 2026; Schiff et al., 2025). Furthermore, L2 research establishes grammar knowledge as a primary correlate of reading comprehension alongside vocabulary and decoding skills (Gullo et al., 2025; Han, 2025).

In Arabic, grammatical information is heavily encoded through morphological patterns and inflectional case endings (*iʿrāb*), which signal syntactic relationships within a

sentence (Rashwan, 2024). Arabic's rich morphological system—comprising roots, patterns, affixes, and inflections—demands high morphological awareness for literacy development (Asadi et al., 2023; Shahbari-Kassem et al., 2025; Smail et al., 2025; Vaknin-Nusbaum & Makhoul, 2025).

Oral reading serves as an ideal diagnostic window to observe how learners apply this grammatical knowledge in real time. Transforming written symbols into spoken language requires simultaneous processing of decoding, orthography, morphology, and syntactic parsing. In the specific context of the Program Iman Specialization in Surabaya, students repeatedly exhibit difficulties applying Arabic grammatical rules during oral reading. These issues manifest in incorrect inflectional realizations, flawed *iḍāfah* constructions, and errors in distinguishing nominative, accusative, and genitive cases. This discrepancy reveals a critical gap between declarative rule knowledge in written exercises and real-time procedural performance during authentic reading.

This study argues that grammatical errors occurring during Arabic oral reading must not be dismissed as incidental slips of the tongue. Systematic errors reflect learners' developing interlanguage systems and signify deeper processing hurdles when retrieving explicit knowledge during live language use. In applied linguistics, error-oriented analysis serves as vital empirical evidence to uncover patterns in developing linguistic competence, bridging theory and classroom practice.

Misreading a word's final vowel often signals a failure to parse its syntactic function within a sentence, or a breakdown in retrieving explicit rules during fluent production. Grammar instruction relying heavily on memorization yields explicit knowledge that does not automatically translate into accurate spontaneous usage. Although explicit instruction produces strong learning effects (Dalman & Plonsky, 2025; Murphy Odo, 2022; Wang et al., 2025; Zhang et al., 2023), rule learning must be paired with meaningful application opportunities.

To bridge this diagnostic gap, systematic error analysis provides an empirical foundation for targeted instructional interventions, particularly through immediate corrective feedback. A robust body of SLA literature confirms that oral corrective feedback yields durable positive effects on target-language accuracy, learner uptake, and rule internalization (Gholami, 2024; Li, 2022; Lira-Gonzales et al., 2024; Rassaei, 2026; Wang et al., 2025; Zhao & Ellis, 2022). Therefore, analyzing oral reading errors fulfills dual purposes: diagnosing

specific syntactic deficits and designing evidence-based pedagogical responses centered on structured practice and corrective feedback

Recent literature firmly establishes that Arabic reading performance depends heavily on the dynamic interaction of morphological awareness, short-vowel diacritics, and sentence-level syntactic context (Boudelaa & Rastle, 2026; Shahbari-Kassem et al., 2025; Smail et al., 2025). Empirical studies confirm that short vowels and morphological patterns significantly influence word recognition accuracy, reading speed, and text disambiguation among non-native learners (Asadi et al., 2023; Schiff et al., 2025). Concurrently, broader meta-analytic evidence highlights syntactic skills and grammatical knowledge as primary correlates of second-language reading comprehension (Han, 2025; Tong et al., 2025).

Despite these valuable contributions, the existing literature reveals significant empirical, methodological, and pedagogical gaps. Contextually, the vast majority of Arabic literacy and morphological studies focus on native-speaking children, early elementary development, or clinical dyslexia (e.g., Vaknin-Nusbaum & Makhoul, 2025), leaving a critical void regarding non-native adult L2 learners pursuing advanced academic tracks, particularly within specialized Islamic higher education contexts such as the *Program Iman Specialization* (*Al-Program Al-Takhassusi*) in Indonesia. Methodologically, L2 Arabic reading research predominantly relies on static comprehension metrics, written vocabulary tests, or isolated grammar assessments. These conventional tools fail to capture live, real-time oral deviations in inflectional case realization (*iʿrāb*) as continuous text is processed under cognitive load. Furthermore, while the broad SLA literature provides robust meta-analytic confirmation for explicit instruction (Dalman & Plonsky, 2025; Wang et al., 2025) and oral corrective feedback (Lira-Gonzales et al., 2024; Rassaei, 2026; Zhao & Ellis, 2022), few studies explicitly bridge diagnostic error patterns during oral reading with targeted, real-time classroom feedback interventions in Arabic foreign-language settings.

This study directly addresses this empirical intersection. By transcribing and analyzing live oral-reading performances, it unveils how explicit grammatical knowledge breaks down during procedural execution—providing the empirical baseline necessary to implement targeted, real-time corrective feedback (Gholami, 2024; Li, 2022; Wang et al., 2025).

The novelty of this research lies in its integrated diagnostic-pedagogical design and its empirical focus on authentic oral-reading performance within an Indonesian Islamic

higher education context. Rather than evaluating reading comprehension or written grammar in isolation through static assessments, this study captures real-time oral reading through detailed transcriptions to establish a fine-grained typology of recurring syntactic errors during live speech processing. To analyze these performances, the study integrates three complementary theoretical frameworks. Error Analysis (EA) provides the primary diagnostic lens for identifying, classifying, and interpreting systematic interlanguage deviations as meaningful indicators of developing competence. L2 Reading and Processing Theory supplies the structural framework for understanding how visual morphological priming, syntactic parsing, and cognitive capacity interact during continuous text reading under processing constraints (Boudelaa & Rastle, 2026; Idrissi et al., 2025; Tong et al., 2025). Finally, Corrective Feedback Theory supplies the pedagogical framework for translating identified error patterns into actionable instructional responses, specifically linking oral corrective timing, affective filters, and cognitive load to rule internalization (Gholami, 2024; Lira-Gonzales et al., 2024; Rassaei, 2026). By conceptualizing oral reading as an empirical window into cognitive processing, this study demonstrates how inflectional case markers function simultaneously as phonological, morphological, and syntactic indicators during live language execution.

This study focuses on analyzing grammatical errors in Arabic oral reading among students of the Program Iman Specialization in Surabaya, systematically examining case endings (nominative, accusative, genitive), *iḍāfah* constructions, and syntactic agreement to map their distribution and pinpoint primary sources of learner difficulty. Specifically, the research aims to identify and classify the dominant grammatical error patterns that emerge during live oral-reading performances. It seeks to analyze the underlying linguistic and instructional factors causing these errors, drawing a clear boundary between transient phonetic slips and systematic rule-application breakdowns during real-time processing. Ultimately, the study aims to formulate evidence-based pedagogical recommendations—integrating functional grammar instruction, structured oral-reading practice, and immediate corrective feedback—to bridge the gap between explicit rule memorization and real-time grammatical accuracy in reading.

METHODS

This study employed a qualitative descriptive-analytic design utilizing a linguistic Error Analysis (EA) framework (Corder, 1967; Ellis, 1994), updated through contemporary models (McDowell & Liardét, 2020). A qualitative design was chosen to provide an in-depth description of the forms, patterns, and contributing factors of grammatical errors rather than testing statistical hypotheses. EA provides a systematic diagnostic basis for identifying recurring linguistic deviations and classifying them to draw pedagogical insights (Corder, 1967; McDowell & Liardét, 2020).

The focus was specifically on grammatical errors produced during Arabic oral reading (*qirāʾah jahriyyah* / قراءة جهرية), particularly involving inflectional endings and syntactic structures. This orientation aligns with recent studies highlighting the critical role of morphological awareness, inflectional morphology, and syntactic processing in Arabic reading performance (Asadi et al., 2023; Shahbari-Kassem et al., 2025; Smail et al., 2025; Tong et al., 2025; Vaknin-Nusbaum & Makhoul, 2025).

The research followed a five-stage qualitative EA procedure adapted for Arabic oral-reading data: (1) data collection, (2) error identification, (3) error classification, (4) interpretation of contributing factors, and (5) pedagogical evaluation (Corder, 1967; Ellis, 1994; McDowell & Liardét, 2020).

First, oral-reading performances were collected via individual tasks. Second, productions were transcribed and compared against expected target forms. Third, identified deviations were categorized into specific grammatical domains (e.g., case marking, *iḍāfah* / إضافة, agreement). Fourth, recurrent patterns were interpreted considering morphological/syntactic processing demands and incomplete rule application, drawing on reading research (Boudelaa & Rastle, 2026; Idrissi et al., 2025; Shahbari-Kassem et al., 2025; Tong et al., 2025). Fifth, findings were translated into pedagogical recommendations regarding functional grammar, structured oral reading, and oral corrective feedback (Gholami, 2024; Lira-Gonzales et al., 2024; Rassaei, 2026).

Participants were students in the Program Iman Specialization (*Al-Program Al-Takhassusi* / البرنامج التخصصي) at STAI Ali Bin Abi Thalib Surabaya enrolled in intensive Arabic reading courses (*mahārah al-qirāʾah* / مهارة القراءة). Purposive sampling was applied to

select information-rich cases. Criteria included completing foundational *naḥw–ṣarf* (*ʿilm al-naḥw wa al-ṣarf* / علم النحو والصرف) courses, regular oral reading participation, and showing recurrent inflectional/syntactic difficulties.

Based on these criteria, four students were selected as focal cases and assigned anonymous participant codes (P1–P4) to preserve confidentiality while enabling systematic qualitative analysis (see Table 1).

Table 1. Profile of Focal Case Participants

Participant Code	Foundational Course Status (Naḥw–Ṣarf / النحو والصرف)	Observed Primary Reading Difficulty
P1	Completed (Jayyid / جيد)	Case assignment (iʿrāb / إعراب) in complex sentences
P2	Completed (Maqbūl / مقبول)	Construct state (iḍāfah / إضافة) modifiers
P3	Completed (Jayyid Jiddan / جيد جدا)	Verbal complement (mafāʿīl / مفاعيل) realization
P4	Completed (Jayyid / جيد)	Agreement relations (at-tawāfuq / التوافق) & structural ambiguity

This small sample fits the qualitative, case-focused nature of error analysis (Corder, 1967; Ellis, 1994), prioritizing detailed linguistic data over statistical representativeness to examine qualitative error depth (Hong, 2025).

The primary instrument was a diagnostic oral-reading task (*qirāʾah jahriyyah* / قراءة جهرية) based on an unvowelized narrative text titled "*Naṣāʾiḥ al-Ab wa Ijtihād al-Ibn*" (نصائح الأب واجتهاد الابن). The text integrated target structures, including inflectional case marking (*iʿrāb* / إعراب), construct states (*iḍāfah* / إضافة), verbal complements (*mafāʿīl* / مفاعيل), prepositional phrases (*al-jārr wa al-majrūr* / الجار والمجرور), and subject–verb agreement.

An unvowelized text was selected because vocalizing word endings directly reflects underlying morphological decomposition and syntactic processing (Asadi et al., 2023; Idrissi et al., 2025; Shahbari-Kassem et al., 2025; Vaknin-Nusbaum & Makhoul, 2025). Participants read individually in a controlled environment, and digital audio recordings preserved actual

oral productions for precise transcription of word-final vowels (*dhabṭ al-ḥarakāt* / ضبط الحركات), distinguishing errors from hesitations or self-corrections.

Data analysis combined linguistic Error Analysis and descriptive content analysis through five sequential steps (Corder, 1967; Ellis, 1994; McDowell & Liardét, 2020). The process began with transcription and data familiarization, where audio recordings were listened to repeatedly and transcribed verbatim to preserve exact short-vowel realizations at word endings (*dhabṭ al-ḥarakāt* / ضبط الحركات). Next, during error identification, the transcriptions were aligned with the target text within sentence contexts, evaluating deviations against Modern Standard Arabic (MSA) norms to isolate systematic interlanguage errors from mere performance slips or hesitations (Corder, 1967; Hong, 2025).

Once confirmed, the errors were classified into nominative (*marfūʿāt* / مرفوعات), accusative (*manṣūbāt* / منصوبات), and genitive (*majrūrāt* / مجرورات) case assignments, *iḍāfah* (*iḍāfah* / إضافة) constructions, verbal complements (*al-mafāʿīl* / المفاعيل), and agreement structures (Ellis, 1994; McDowell & Liardét, 2020). Following classification, pattern analysis and interpretation were conducted by descriptively tabulating error distributions across P1–P4 to identify prominent areas of difficulty. These descriptive frequencies supported pattern identification without making inferential statistical claims, allowing patterns to be interpreted alongside psycholinguistic processing demands and automaticity deficits (Boudelaa & Rastle, 2026; Smail et al., 2025; Tong et al., 2025). Finally, through pedagogical synthesis, these findings were translated into actionable recommendations focusing on functional grammar, contextualized case practice, and targeted oral corrective feedback, supported by L2 engagement and feedback research (Gholami, 2024; Lira-Gonzales et al., 2024; Rassaei, 2026; Wang et al., 2025).

RESULTS

Core Empirical Findings and Error Typology

The empirical analysis of oral reading performances among focal participants (**P1–P4**) in the Program Iman Specialization (*Al-Program Al-Takhassusi* / البرنامج التخصصي)

reveals that grammatical errors are highly systematic rather than accidental. Errors primarily cluster around the realization of inflectional case endings (*dhabṭ al-ḥarakāt* / ضبط الحركات), syntactico-semantic role identification, and structural dependency.

Table 2. Dominant Domains and Linguistic Typology of Oral Reading Errors

Error Domain	Description & Linguistic Pattern
Case Assignment (Iʿrāb / الإعراب)	Failure to assign nominative (marfūʿāt / مرفوعات), accusative (manṣūbāt / منصوبات), or genitive (majrūrāt / مجرورات) cases driven by grammatical operators (ʿawāmil / عوامل).
Construct State (Iḍāfah / الإضافة)	Over-generalization of nominative/accusative markers onto genitive modifiers (muḍāf ilayh / مضاف إليه).
Verbal Agreement & Tense (At-Tawāfuq al-Fiʿlī / التوافق الفعلي)	Misarticulation of past-tense suffixes into jussive (majzūm / مجزوم) or imperative (amr / أمر) vocalizations during sequential reading.
Complement Misattribution (Khaṭaʾ al-Mafāʿīl / خطأ المفاعيل)	Substituting nominative markers for accusative direct objects (mafʿūl bihi / مفعول به) and absolute objects (mafʿūl muṭlaq / مفعول مطلق).

Qualitative tracing indicates two primary underlying causes across the four focal cases:

Parsing Failure (*Al-Mawqiʿ al-Iʿrābī* / الموقع الإعرابي): Participants struggle to determine a word's functional position within a clause before vocalizing it, leading to a default reliance on nominative case endings (*marfūʿāt* / مرفوعات).

Declarative-Procedural Gap: Although participants possess explicit declarative knowledge of *Naḥw* (*ʿilm al-naḥw* / علم النحو) rules, live oral reading demands real-time procedural processing, causing rule breakdown under cognitive load.

Tabular Evidence and Structural Mapping

To illustrate the distribution and typology of errors across the diagnostic passage ("*Naṣāʾiḥ al-Ab wa Ijtihād al-Ibn*" / نصائح الأب واجتهاد الابن), the recorded deviations of the four focal participants-**P1**, **P2**, **P3**, and **P4**-are categorized below.

Table 3. Typology of Transcribed Oral Reading Errors across Target Syntactic Structures

Participant	Target Text (Correct)	Observed Utterance (Error)	Grammatical Category	Structural Explanation
P1	fī ṣabāḥin jamīlin (فِي صَبَاح جَمِيلٍ)	fī ṣabāḥ jamīlu (فِي صَبَاح جَمِيلُ)	Prepositional Adjunct (Al-Jārr wa al-Majrūr / الجار والمجرور)	Failed adjectival case agreement (naʿt / ṣifah / نعت/صفة) following genitive noun
	wa-yurājiʿu durūsahū (وَيُرَاجِعُ دُرُوسَهُ)	wa-yurājiʿu durūsuhū (وَيُرَاجِعُ دُرُوسُهُ)	Direct Object (Mafʿūl bihi / مفعول به)	Substituted nominative for accusative case marker
P2	kāna Abū ʿAlīin (كَانَ أَبُو عَلِيٍّ)	kāna Abū ʿAlīyu (كَانَ أَبُو عَلِيُّ)	Construct State (Iḍāfah / الإضافة)	Assigned nominative case to the muḍāf ilayh (مضاف إليه)
	kāna ʿAlīyun (كَانَ عَلِيٌّ)	kāna ʿAlīyin (كَانَ عَلِيّ)	Subject of Kāna (Ism Kāna / اسم كان)	Applied genitive case instead of required nominative
P3	Naṣāʾiḥa al-Abi (نَصَائِحَ الأَبِ)	Naṣāʾiḥu al-Abu (نَصَائِحُ الأَبُ)	Direct Object & Iḍāfah (Mafʿūl bihi wa Iḍāfah / مفعول به وإضافة)	Double error: missed accusative object and genitive modifier
	wa-staʿidda (وَاسْتَعِدَّ)	wa-staʿid (وَاسْتَعِدْ)	Verbal Morphology (Aṣ-Ṣīghah al-Fiʿliyyah / الصيغة الفعلية)	Misarticulated past-tense verb as jussive imperative (amr / أمر)
P4	tarbiyatan ṣāliḥatan (تَرْبِيَةً صَالِحَةً)	tarbiyatun ṣāliḥatun (تَرْبِيَةٌ صَالِحَةٌ)	Absolute Object (Mafʿūl Muṭlaq / مفعول مطلق)	Vocalized accusative complement as nominative predicate
	ilā al-madrasati (إِلَى المَدْرَسَةِ)	ilā al-madrasah (إِلَى المَدْرَسَهْ)	Prepositional Case (Al-Majrūr bi Ḥarf al-Jārr / المجرور بحرف الجر)	Applied pause-state (sukūn / سكون / وقف) during continuous reading

Anomalous Trends and Processing Deviations

While the vast majority of errors aligned with expected interlanguage patterns (e.g., struggling with complex *iʿrāb* / إعراب rules), two anomalous patterns emerged during data analysis:

1. **The Nominative Default Bias:** Across all four focal participants (**P1–P4**), when learners experienced cognitive overload or uncertainty regarding a word's syntactic role, they did not produce random phonological variations. Instead, they defaulted to the nominative case

(*ḍammah* / ضمة). This suggests that learners treat the nominative form (*marfūʿ* / مرفوع) as an unmarked, neutral default mental entry rather than an actively assigned case.

2. **Contextual Dissociation in Isolated vs. Connected Words:** Certain participants (such as **P3**) correctly identified case endings during isolated grammar drills, yet consistently failed to realize the exact same case markers during continuous sentence reading. This divergent finding highlights that oral reading errors in non-native Arabic learners stem less from a lack of grammatical knowledge (competence) and more from severe processing bottlenecks during real-time speech delivery (performance).

DISCUSSION

The qualitative linguistic analysis demonstrates that grammatical deviations in Arabic oral reading (*qirāʾah jahriyyah* / قراءة جهرية) are not arbitrary phonological slips; rather, they reflect systematic interlanguage patterns governed by real-time cognitive and syntactic processing constraints. The primary empirical finding reveals a severe **Nominative Default Bias** (*Marfūʿāt Default* / الانحياز الافتراضي للمرفوعات). When learners encounter structural ambiguity or high cognitive load while decoding unvowelized texts, they consistently default to the *ḍammah* (ضمة) ending. This phenomenon indicates that non-native Arabic learners store and retrieve lexical items in their mental lexicon in an unmarked, default nominative state (*marfūʿ* / مرفوع), failing to dynamically suppress this baseline state when syntactic operators (*ʿawāmil* / عوامل) demand accusative (*manṣūbāt* / منصوبات) or genitive (*majrūrāt* / مجرورات) realizations.

Furthermore, the observed **Contextual Dissociation**—where participants accurately apply *iʿrāb* (إعراب) rules during isolated grammar drills (*ʿIlm al-Naḥw* / علم النحو) but fail during continuous text reading—underscores a fundamental **Declarative-Procedural Gap**. During oral reading, learners must simultaneously manage orthographic decoding, visual morphological parsing, syntactic role assignment (*al-mawqiʿ al-iʿrābī* / الموقع

الإعرابي), and articulatory execution. Under these multi-layered processing demands, explicit declarative knowledge of grammatical rules collapses, leading to parsing failures at clause boundaries, misassignment of construct states (*iḍāfah* / إضافة), and improper pauses (*sukūn* / سكون) during continuous reading.

These empirical observations align strongly with Corder's (1967) and Ellis's (1994) foundational Error Analysis (EA) frameworks, confirming that learner errors provide systematic evidence of an evolving underlying interlanguage system. The findings further support McDowell and Liardét's (2020) elaborated EA model by demonstrating that diagnostic error mapping can pinpoint specific structural domains—such as case assignment (*iʿrāb* / إعراب) and agreement (*at-tawāfuq* / التوافق)—that require targeted linguistic support.

From a psycholinguistic perspective, the results resonate with recent empirical research on Arabic reading processes. The breakdown in case marking during continuous reading reinforces the findings of Boudelaa and Rastle (2026) and Tong et al. (2025), who established that syntactic processing and morphological awareness are tightly intertwined in Arabic sentence comprehension and vocalization. The cognitive processing bottleneck experienced by learners during *iḍāfah* (إضافة) and *mafāʿīl* (مفاعيل) parsing also mirrors the observations of Smail et al. (2025) and Shahbari-Kassem et al. (2025) regarding the high working memory load imposed by Arabic inflectional morphology. Additionally, the prevalence of phonetic pauses (*sukūn* / سكون) over continuous case realization aligns with Hong's (2025) methodological emphasis on distinguishing performance-related processing deviations from absolute gaps in linguistic competence.

The theoretical and practical implications of this study span both linguistic methodology and classroom pedagogy:

First, the theoretical implications refine L2 Arabic interlanguage theory by establishing that oral reading errors in non-native learners are primarily processing-driven rather than competence-driven. By demonstrating how live text vocalization triggers real-time cognitive overload, these findings provide crucial empirical validation for integrating cognitive load models with traditional *Naḥw* (*ʿilm al-naḥw* / علم النحو) frameworks to explain oral reading performance.

Second, the pedagogical implications necessitate a fundamental shift in Arabic instructional design from static rule memorization toward real-time sentence-building and speeded oral-reading drills that automate *iʿrāb* (*iʿrāb* / إعراب) realization. Within this procedural orientation, educators should target oral corrective feedback (Gholami, 2024; Rassaei, 2026) specifically at mitigating the Nominative Default Bias, systematically training learners to proactively identify accusative contexts—such as direct objects (*mafʿūl bihi* / مفعول به) and absolute objects (*mafʿūl muṭlaq* / مفعول مطلق)—prior to articulation. Ultimately, implementing scaffolded unvowelized reading (*qirāʾah jahriyyah* / قراءة جهرية) embedded with explicit pre-reading syntactic parsing tasks (*taḥlīl tarkībī* / تحليل تركيبي) serves as a critical instructional bridge between passive morphological recognition and fluent, accurate oral delivery.

While this study provides rich qualitative insight into L2 Arabic oral reading error patterns, several methodological limitations should be acknowledged:

Sample Scope: The investigation was confined to four focal cases from a single specialized institution (STAI Ali Bin Abi Thalib Surabaya). While this small-sample design is methodologically sound and aligned with established frameworks for in-depth qualitative error tracing (Corder, 1967; Hong, 2025; McDowell & Liardét, 2020), the empirical findings cannot be statistically generalized to the broader L2 Arabic learner population.

Task Modality and Text Genre: Data collection relied exclusively on a single diagnostic narrative text ("*Naṣāʾiḥ al-Ab wa Ijtihād al-Ibn*" / نصائح الأب واجتهاد الابن). Because syntactic complexity and vocabulary density vary across register types, error distribution patterns may differ in expository or persuasive texts (Boudelaa & Rastle, 2026).

Processing Inferences: Cognitive processing bottlenecks during oral reading were inferred through audio transcription and qualitative performance analysis rather than direct physiological or neuro-cognitive measurement.

To advance the empirical understanding of L2 Arabic reading development, future research should incorporate psycholinguistic technologies such as eye-tracking paradigms and online reading measures. Recording visual fixation durations on unvowelized word endings will provide direct empirical evidence of real-time morphological parsing during live text vocalization (Idrissi et al., 2025). Furthermore, quasi-experimental and longitudinal interventions are needed to evaluate the long-term efficacy of explicit oral corrective

feedback and systematic error engagement (Lira-Gonzales et al., 2024; Wang et al., 2025) in mitigating the **Nominative Default Bias** (*Marfūʿāt Default* / الانحياز الافتراضي للمرفوعات).

Finally, future investigations should expand this qualitative error typology across larger learner cohorts and diverse textual genres. Testing these patterns across broader populations will determine whether the observed processing bottlenecks represent universal interlanguage phenomena or vary significantly across different levels of L2 Arabic proficiency (Shahbari-Kassem et al., 2025; Tong et al., 2025).

CONCLUSION

This study demonstrates that grammatical errors produced by non-native Arabic learners during oral reading (*qirāʾah jahriyyah* / قراءة جهرية) of unvowelized texts are highly systematic and structurally governed rather than random phonological slips. Empirical error tracing reveals that deviations cluster around inflectional case assignment (*iʿrāb* / إعراب), construct state (*iḍāfah* / إضافة) modifiers, and complement realization (*mafāʿīl* / مفاعيل). Qualitative analysis identifies a prominent **Nominative Default Bias** (*Marfūʿāt Default* / الانحياز الافتراضي للمرفوعات), wherein learners default to the *ḍammah* (ضمة) ending when experiencing processing overload or structural ambiguity. Furthermore, the observed **Contextual Dissociation** between isolated grammar drills (*ʿIlm al-Naḥw* / علم النحو) and continuous text reading confirms a critical **Declarative-Procedural Gap**, indicating that errors stem primarily from real-time syntactic processing bottlenecks during speech delivery rather than a complete absence of explicit rule knowledge.

This research contributes to the field of L2 Arabic acquisition and Error Analysis by bridging classical linguistic frameworks with contemporary psycholinguistic perspectives on reading processes. Theoretically, it refines L2 Arabic interlanguage theory by providing empirical evidence that oral reading errors are processing-driven performance bottlenecks rather than mere competence gaps. Methodologically, it demonstrates the utility of an elaborated qualitative error taxonomy for mapping real-time morphological parsing in non-native learners. Pedagogically, it highlights the necessity of shifting Arabic grammar

instruction from static, isolated rule memorization toward automated, speeded sentence-parsing drills and targeted oral corrective feedback.

To extend these findings, future research should integrate psycholinguistic paradigms, such as eye-tracking technology, to measure visual fixation durations on unvowelized word endings and capture direct physiological evidence of online morphological processing. Additionally, quasi-experimental longitudinal studies should be conducted to evaluate the efficacy of structured oral corrective feedback and systematic error engagement in mitigating the Nominative Default Bias over time. Finally, expanding the diagnostic error typology across larger, multi-institutional learner cohorts and across diverse text genres (e.g., expository and persuasive registers) will verify the cross-contextual generalizability of these interlanguage processing bottlenecks.

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