

E-learning and Arabic Language Instruction: Evidence – Based Best Practices for Online Teaching Methodologies

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ABSTRACT

The rapid expansion of e-learning has transformed foreign language instruction, yet empirical research on online Arabic language pedagogy remains limited compared to studies on commonly taught European languages. Arabic poses distinct instructional challenges in digital environments due to diglossia, complex morphology, phonological difficulty, and non-Latin script directionality. Addressing this gap, the present mixed-methods study investigates effective online teaching practices, digital tools, and assessment strategies for Arabic language instruction. Data were collected from 127 students enrolled in fully online Arabic degree programs across four universities in Malaysia. Guided by Communicative Language Teaching (CLT), Constructivist theory, and the Community of Inquiry (CoI) framework, the study integrates a quantitative survey with qualitative learner reflections. Quantitative findings reveal strong correlations between instructor presence, synchronous speaking activities, multimedia support, and perceived language gains, with notable variation across proficiency levels. Qualitative analysis further highlights the importance of cultural immersion, sustained pronunciation feedback, and challenges related to script acquisition, particularly for beginner learners. By situating learner perceptions within established CALL frameworks, this study contributes empirically grounded best-practice guidelines for designing and implementing effective online Arabic language curricula.

Keywords: Arabic CALL, e-learning, online language instruction, communicative language teaching, Community of Inquiry

1. INTRODUCTION

While online language learning has been widely studied in CALL research, Arabic remains underrepresented despite its growing global importance and pedagogical complexity. Existing CALL studies predominantly focus on European and East Asian languages, where alphabetic transparency and limited diglossia reduce instructional challenges (Hampel & Stickler, 2012; Warschauer, 2011). Arabic, by contrast, presents a convergence of linguistic and sociolinguistic challenges—diglossia, root-and-pattern morphology, marked phonology, and script directionality—that complicate both curriculum design and learner engagement, particularly in online settings (Al-Batal, 2006; Ryding, 2013).

Although recent studies acknowledge the potential of digital tools for Arabic learning (Dakhiel, 2017; Nasirudeen & Chtaibi, 2022), empirical research that combines CALL theory with learner-level data across proficiency stages remains scarce. Most prior work is conceptual, tool-focused, or limited to isolated skills such as vocabulary or pronunciation. This study addresses this gap by examining how pedagogical design, technology use, and assessment practices interact to support online Arabic learning from the learner perspective.

1.1 Statement of the Problem

Despite the increasing adoption of online Arabic programs, instructors lack empirically validated guidance on how to design instruction that effectively supports communicative competence, engagement, and accurate

assessment. The complexity of Arabic intensifies challenges related to interaction, feedback, and skill integration in virtual environments. Current practices often rely on generalized CALL principles without sufficient consideration of Arabic-specific linguistic constraints or learner proficiency differences. Consequently, there is a need for research that identifies evidence-based online teaching strategies tailored to Arabic and examines how these strategies function across different learner levels.

1.2 Research Questions

1. What online teaching practices are perceived by learners as most effective for developing Arabic language proficiency?
2. How does the use of digital tools influence learner engagement and perceived skill development in online Arabic courses?
3. Which online assessment approaches are perceived as most appropriate for measuring Arabic language proficiency?
4. How do perceptions of instructional effectiveness differ across beginner, intermediate, and advanced proficiency levels?

1.3 Research Objectives

1. To identify online teaching practices that learners perceive as most effective in developing Arabic language proficiency.
2. To examine the influence of digital tools on learner engagement and perceived skill development in online Arabic language courses.
3. To determine which online assessment approaches are perceived by learners as most appropriate for measuring Arabic language proficiency.
4. To compare learners' perceptions of instructional effectiveness across beginner, intermediate, and advanced levels of Arabic language proficiency.

2. LITERATURE REVIEW

Across CALL research, interaction-driven and task-based approaches are consistently associated with successful language acquisition (Chapelle, 2009; Blake, 2013). However, few studies examine how these principles operate in languages characterized by diglossia and complex orthography, such as Arabic. While the Community of Inquiry (CoI) framework has been validated in online SLA contexts (Garrison et al., 2000; Kern et al., 2016), its application to Arabic instruction remains limited and under-theorized.

Similarly, Arabic pedagogy research supports CLT and proficiency-oriented curricula (Al-Batal, 2006; Younes, 2015), yet empirical studies examining how these principles translate into fully online environments are scarce. Technology-enhanced instruction shows promise for vocabulary learning, pronunciation, and script acquisition (Dakhiel, 2017; Stockwell, 2016), but findings are often mixed and rarely analyzed by proficiency level. This study extends existing research by integrating CALL theory, Arabic-specific pedagogy, and learner data within a unified analytical framework.

2.1 Online SLA Pedagogy

The first CALL scholarship ascertained that learning a second language online could as well surpass or equal traditional instruction in case interaction and task-based learning takes precedence (Chapelle, 2009). Blake (2013) established that the use of synchronous tele collaboration supports pragmatic competence and communicative fluency by the process of negotiating meaning. Other studies of this nature, which use audio, onna video, text and synchronous discourse, have shown that the use of multimodal environments enhances the retention and syntactic complexity of the learners (Hampel and Stickler, 2012).

At the heart of this achievement is the Community of Inquiry (CoI) model which assumes that there are three presences that constitute quality online learning including teaching presence (organization of courses and feedback), social presence (peer interaction), and cognitive presence (reflective problem solving) (Garrison et

al., 2000). The factual evidence on the model demonstrates that the development of language proficiency is promoted by balanced CoI components (Kern et al., 2016). Another study affirmed that the integration of digital resources and online learning platforms offers substantial benefits for mastering the Arabic language, specifically by making learning more accessible, aiding in skill development, boosting learner engagement, and facilitating productive communication. Nevertheless, the success of these technologies' hinges on careful instructional planning and their continuous adaptation to the unique linguistic intricacies of Arabic (Nasirudeen and Chtaibi, 2022).

3.2 Arabic Pedagogical Constructs.

The tradition of teaching Arabic was based on grammar-translation techniques that were inappropriate to the acquisition of communicative competence (Al-Batal, 2006). The implementation of the Communicative Language Teaching (CLT) concept redefined teaching based on real-life interactions, performance assignments, and sense making (Ryding, 2013). Younes (2015) also stated proficiency-oriented curricular design that should be adopted in accordance with the ACTFL requirements instead of textbook reading. Furthermore, applied grammar instruction enhances both the accuracy and communicative ability of non-native Arabic learners. By moving beyond rote memorization to contextualized, interactive practice, teachers can significantly improve learners' competence and confidence in using Arabic grammar in meaningful communication (Nasirudeen (2022). In a study conducted by Nasirudeen and Chtaibi (2024) the assumption that applied Arabic syntax instruction is great importance which contributes to improving reading skills for non-native. The effective teaching methodologies alleviate syntactic challenges, by which learners obtain a sense of linguistic awareness and much-improved comprehension of the target language. Further research will investigate new ways of teaching and their longer term influence on language acquisition.

According to Al-Biruni (2012), the issue of dialect diversity and lack of exposure to unstructured language use outside classrooms makes Arabic learners experience frustration in listening comprehension. Combined CLT that uses dialect listening resources enhances learner confidence and pragmatic comprehension (Belnap and Bishop, 2018).

2.3 Technology Integration

The LMS systems and mobile applications allow customization of the vocabulary building and script learning through the use of the spaced repetition and handwriting simulation algorithms (Godwin-Jones, 2018; Dakhiel, 2017). Stockwell (2016) illustrates the pronunciation improvement when students train on the speech recognition software.

Online social learning contributes to the development of intercultural competence, which entails cultural literacy and persistence of the learner (Kern et al., 2016). Kukulska-Hulme (2020) recommends mobile pedagogy based on self-regulated study outside the classroom.

2.4 Assessment in Online SLA

Technological digital assessment instruments, such as automated quizzes, audio feedback, and e-portfolios, allow to track performances and reflect the learners frequently (Davies, 2017). Portfolio assessment shows to be better than traditional exams in measuring communicative competence (Brown and Abeywickrama, 2019). Norris (2016) confirms that online oral tests that are task-based are the most appropriate to represent functional language proficiency.

3.THEORETICAL FRAMEWORK

This research integrates:

- **Communicative Language Teaching (CLT):** the emphasis is made on meaning negotiation, role-play, and learner output (Al-Batal, 2006).
- **Constructivism:** it places importance on collective knowledge construction, peer-mediation, and reflective practice (Vygotsky, 1978).

4. METHODOLOGY

4.1 Research Design

A sequential explanatory mixed-methods design was employed. Quantitative survey data were collected first to identify patterns in learner perceptions, followed by qualitative analysis of open-ended responses to contextualize and explain these patterns.

4.2 Participants

A total of 127 students enrolled in fully online Arabic courses participated.

- Beginner: 45%
- Intermediate: 38%
- Advanced: 17%
- Mean age: 21.6
- Gender: 54 female, 44 male, 2 non-binary

4.3 Instruments

A 10-item Likert-scale questionnaire adapted from Chapelle (2009) and Garrison et al. (2000) measured:

- Synchronous interaction
- Instructor presence
- Multimedia support
- Technology usability
- Assessment relevance

Reliability was high (Cronbach's $\alpha = .87$). Open-ended questions elicited reflections on learning challenges, instructional effectiveness, and improvement suggestions.

4.4 Data Analysis

- Descriptive statistics and Pearson correlations
- One-way comparisons across proficiency levels
- Thematic analysis following Braun and Clarke (2006)

5. FINDINGS

5.1 Quantitative Results

Subscale	Mean	SD
Synchronous Interaction	4.41	0.52
Instructor Presence	4.37	0.47
Multimedia Support	4.21	0.54
Technology Usability	3.89	0.61
Assessment Relevance	4.19	0.50

Correlational Findings

- Instructor presence strongly correlated with learner engagement ($r = .72, p < .01$).
- Frequency of speaking tasks correlated with perceived fluency gains ($r = .65, p < .01$).

Differences Across Proficiency Levels

- Beginner learners reported significantly greater difficulty with script acquisition and technology usability.
- Intermediate learners benefited most from synchronous interaction.
- Advanced learners valued assessment relevance and cultural materials more highly, indicating shifting instructional priorities with proficiency development.

5.2 Qualitative Themes

Theme 1: Interactive Speaking as a Catalyst for Learning

Students across levels emphasized the centrality of live speaking activities, though beginners expressed anxiety when insufficient scaffolding was provided.

Theme 2: Need for Sustained Pronunciation Feedback

While AI tools were valued, learners consistently stressed that automated feedback could not replace instructor correction—highlighting a tension between technological efficiency and pedagogical depth.

Theme 3: Cultural and Authentic Materials as Motivators

Authentic media enhanced motivation, particularly for intermediate and advanced learners, but some beginners found such materials linguistically overwhelming.

Theme 4: Persistent Script Challenges

Despite handwriting software, beginners reported limited progress in connected writing, suggesting a mismatch between tool design and novice learner needs.

6. DISCUSSION

The findings corroborate CALL research emphasizing interaction and instructor presence (Chapelle, 2009; Garrison et al., 2000) while extending these insights to Arabic-specific contexts. Importantly, the variation across proficiency levels demonstrates that effective online Arabic pedagogy is not uniform, but developmentally contingent. Contradictions in learner responses—particularly regarding technology—underscore the need for pedagogically guided integration rather than tool-driven instruction.

7. Best-Practice Framework of Teaching Arabic Online.

Course Design

- Competency-based goals were in accordance with ACTFL standards.
- Weekly thematic projects and speaking laboratories.

Learning Activities

Role-play debates and synchronous role-play.
Digital narrative projects.
Group discussions boards.

Technology Integration

AI pronunciation tools
Handwriting-capture applications
Mobile vocabulary applications.

8. Contributions to Arabic CALL Research

This study contributes by:

1. Providing learner-based empirical evidence in online Arabic instruction
2. Applying the CoI framework to Arabic CALL contexts
3. Demonstrating proficiency-sensitive differences in online instructional effectiveness

10. CONCLUSION

Effective online Arabic language instruction is achievable when communicative interaction, instructor presence, and culturally rich materials are strategically aligned with learner proficiency levels. While digital tools enhance access and engagement, they are most effective when embedded within interaction-driven pedagogical frameworks. By addressing a critical gap in Arabic CALL research, this study offers evidence-based guidance for scalable, learner-centered online Arabic education.

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