The Impact of Inquiry-Based Teaching on Foreign Language Acquisition: A Case Study of Arabic

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Abstract

This study explores the effectiveness of inquiry-based teaching for those learning Arabic as a foreign language, particularly in terms of vocabulary acquisition, interpersonal communication, classroom engagement, critical thinking, and learner autonomy. A structured questionnaire was administered to students enrolled in Arabic courses to evaluate their perceptions of this approach. The findings suggested that students held a generally positive view of inquiry-based teaching, reporting that it significantly enhanced language learning, motivation, and classroom interaction while minimizing anxiety and fostering a supportive learning environment. The results highlight the potential of this transformative approach in foreign language education, and the study recommends its broader adoption in the curriculum.

1. Introduction

The teaching of Arabic in the U.S. has gained significant momentum over the past few decades due to increasing geopolitical, economic, and cultural interests in the Arab world. Arabic has been part of American academia since the 17th century, but the demand for Arabic instruction has surged since 2001 (Ryding, 2006), with the Modern Language Association reporting a 92.3% rise in enrollments between 1998 and 2002 (Welles, 2004). The increasing interest in Arabic has been fueled by the language's importance in diplomacy, national security, and global business (Alalawneh, 2018). As a result, universities across the U.S. have expanded their Arabic programs (Abdalla & Al-Batal, 2011), adding comprehensive courses that cover Modern Standard Arabic, other dialects, and cultural studies.

However, teaching Arabic as a foreign language in the U.S. presents unique challenges, such as its grammar differing greatly from English and the significant variation between Modern Standard Arabic and regional dialects spoken across the Arab world (Soliman & Khalil, 2022). A particular challenge is diglossia, making it necessary for students to navigate both Modern Standard Arabic and regional dialects (Albantani & Madkur, 2019). Moreover, teachers often face difficulties due to a lack of resources and training in innovative teaching methodologies. Many Arabic teachers favor traditional approaches over more communicative and pragmatic teaching methods, which can hinder the development of students' communicative competence in real-world situations (Alalawneh, 2018; Soliman & Khalil, 2022). Another challenge is the shortage of qualified, experienced Arabic instructors capable of guiding students to advanced proficiency levels (Al-Batal & Belnap, 2006). As a result, there is a pressing need for innovative pedagogical approaches that foster engagement, autonomy, and critical thinking.

This study explores inquiry-based teaching as an alternative approach to Arabic language instruction. Grounded in constructivist learning theories, it emphasizes student-centered learning, where learners actively construct knowledge through inquiry, exploration, and reflection (Brown & Campione, 1994). This teaching method remains underexplored in foreign and second language education, particularly for Arabic. This study evaluated the perceptions of students learning Arabic through inquiry-based teaching, focusing on vocabulary acquisition, interpersonal communication, and overall classroom engagement. In doing so, it sought to determine whether inquiry-based teaching could support learners by promoting critical thinking without increasing anxiety.

2. Literature Review

2.1 Inquiry-Based Teaching

Inquiry-based teaching is a pedagogical approach rooted in constructivist theories of learning, where knowledge is actively constructed by learners through exploration and questioning rather than being passively received (Brown & Campione, 1994; Dewey, 1933). Initially prominent in science and mathematics education, inquiry-based teaching emphasizes the development of higher-order thinking skills by engaging students in cognitive and discovery learning activities (Lee, 2014), such as interactive question-and-answer exchanges (Collins & Stevens, 1983; Wale & Bishaw, 2020). It can be effectively integrated into second language classrooms, motivating students to actively engage in learning (Lee, 2014). Unlike expository teaching methods that focus on the transmission of fixed knowledge from the teacher to the student, inquiry-based teaching encourages learners to observe, question, gather and analyze data, and apply the findings to real-world problems (Wale & Bishaw, 2020, p. 2). This aligns with Dewey's (1933) advocacy for education that cultivates independent, critical thinkers capable of making well-reasoned decisions. Brown and Campione (1994) further emphasized the role teachers play in guided discovery, which involves guiding students and facilitating their learning by continuously assessing students' understanding and readiness to progress (p. 230). Dai et al. (2011) noted that applying such an approach "not only calls for a change in teaching and learning habits, but also entails deep change in values embodied in education" (p. 140). This approach fosters a deeper understanding of the material, as students are required to engage with the content on a cognitive level (Brown & Campione, 1994).

Gulla and Sherman (2020) argued that inquiry-based teaching, when combined with creative arts and communicative activities, can foster a deeper level of student engagement and critical thinking. This approach aligns with the principles of social constructivism, where learning is seen as a socially situated process, and students are encouraged to collaborate and build knowledge through interaction with their peers and teachers (Huang & Liaw, 2018).

In language education, inquiry-based teaching has been recognized for its potential to enhance communicative competence and promote lifelong learning (Rejeki, 2017). Lee (2014) claimed that inquiry-based teaching was aligned with the principles of the communicative approach by prioritizing communicative proficiency over mere structural mastery. By involving students in meaningful inquiry and exploration, teachers can foster an environment where language is learned through authentic communication and interaction.

Wale and Bishaw (2020) argued that inquiry-based teaching developed critical thinking skills essential for language learners, such as interpretation, analysis, evaluation, and self-regulation. Through inquiry-based activities, students engage in processes that mirror real-life language use, enhancing their ability to understand and produce language in varied contexts. Rolander (2018) highlighted the social aspect of language acquisition, suggesting that inquiry-based teaching empowers learners to explore and challenge social patterns through language, thus fostering a deeper engagement with the language and its cultural nuances.

As the name of the approach implies, questions play a pivotal role in inquiry-based teaching, especially when those questions are appropriately challenging, interesting, and tailored to students' interests. Since this approach involves asking questions within a meaningful context, a theme-based text adoption is essential (Lee, 2014).

In the English as a foreign language (EFL) classroom, inquiry-based teaching has been studied as a means to enhance inferential reading comprehension and critical reasoning skills (Hu et al., 2023). Traditional teacher-centered methods in Chinese EFL classrooms often neglect critical inferential reasoning, leading to a gap in reading comprehension abilities. Studies have shown that shifting to an inquiry-based framework encourages active engagement, problem-solving, and autonomy (Facione, 2011; Liu, 2022). Hu et al. (2023) found that inquiry-based teaching significantly enhanced Chinese high school students' EFL inferential reading comprehension, outperforming traditional methods. Preliminary research has indicated that inquiry-based teaching not only improved reading comprehension performance but also increased student motivation and engagement (Lee, 2014; Martinec & Duncan, 2015). By positioning students as central agents in the learning process, inquiry-based teaching cultivates an environment that stimulates curiosity and promotes exploration, thereby nurturing critical inferential reading comprehension skills (Buranapatana, 2006; Facione, 2015; Hu et al., 2023).

2.2 Inquiry-Based Teaching of Arabic

The adoption of inquiry-based teaching and other student-centered methodologies has shown promise in Arabic instruction. Collaborative learning, in particular, has been found to improve students' understanding of Arabic by encouraging group work and peer interactions. Studies have shown that students who engage in cooperative

learning activities outperform those who study individually, particularly in terms of language proficiency and communication skills (Altamimi & Attamimi, 2014). The use of flipped classroom strategies, where students engage with instructional materials at home and use class time for active discussion and problem-solving, has also proven effective in enhancing language learning outcomes (Al-Assaf et al., 2022).

In Arabic classrooms, this approach can help students develop language skills more effectively by working together to solve problems, engage in discussions, and practice communication. Almelhes and Alsaiari (2024) proposed that Arabic teachers could adopt the 3Cs approach, which combines communicative language teaching, collaborative learning, and social constructivist theory. This approach emphasizes interaction, social context, and student engagement, aligning with the principles of inquiry-based teaching. By focusing on communication and collaboration, teachers can create immersive learning environments that facilitate meaningful language acquisition.

As implied above, the role of the teacher in inquiry-based teaching shifts from being a conveyor of knowledge to a facilitator of learning (Brown & Campione, 1994). Such a shift could be useful in Arabic instruction, where traditional methods often leave students disengaged and unmotivated (Almelhes & Alsaiari, 2024). By adopting inquiry-based teaching, teachers can create a more interactive and supportive environment.

Based on the literature, inquiry-based teaching could offer several benefits to learners of Arabic as a foreign language:

- It encourages students to engage in higher-order thinking processes, improving their ability to analyze, evaluate, and synthesize information (Ghaemi & Mirsaeed, 2017; Wale & Bishaw, 2020). This is particularly important in language learning, where understanding context and nuance is crucial.
- By positioning students as active participants in their learning, inquiry-based teaching fosters autonomy and self-regulation (Brown & Campione, 1994). Learners take ownership of their learning, leading to increased motivation and engagement.
- Through inquiry and exploration, students use language in authentic contexts, enhancing their communicative competence and fluency (Lee, 2014; Rejeki, 2017).
- Learners can explore cultural aspects of the language, promoting a deeper understanding of the social and historical contexts that shape language use (Rolander, 2018; Torres, 2007).
- Encouraging collaboration among students can lead to improved social interaction skills and a more supportive learning community (Gulla & Sherman, 2020; Mei et al., 2022).

3. Method

3.1 Participants

The participants consisted of 10 undergraduate students (four men, six women) studying Arabic as a foreign language in the U.S. Participants were between the ages of 20 and 23, representing various academic backgrounds, including business administration, chemistry, computer science, global and international studies, history, philosophy, political science, and speech language pathology. The study spanned four semesters, during which time inquiry-based teaching was consistently applied by the researcher as the class instructor.

3.2 Instrument

A structured questionnaire was administered to assess the perceived effectiveness of the teaching methods. The data were expected to indicate whether this approach was effective at improving language acquisition, fostering classroom engagement, and encouraging deeper cognitive processing. Additionally, the responses could help identify potential challenges, such as increased anxiety, that future implementations of this approach might wish to address.

The questionnaire consisted of two sections. The first comprised 22 statements designed to measure various dimensions of the approach, including attentiveness, motivation, anxiety, class interaction, and visual aids. Sixteen of these statements were adopted from Lee (2014). Responses were collected on a 5-point Likert scale (1 = Strongly Agree, 5 = Strongly Disagree). Participants indicated their level of agreement with each statement. The second part collected demographic data, including age, gender, academic year, and previous Arabic learning experiences.

Items 1, 7, 14, 17, 19, and 21 assessed whether students found inquiry-based teaching effective at enhancing their learning experience and metacognitive skills. Items 2, 5, and 6 focused on students' perceived motivation and attentiveness in the learning process. Items 8–11 evaluated perceived interaction and participation in the classroom. Items 3 and 4 investigated anxiety. Items 12 and 13 assessed whether the use of visual aids, such as

realia, pictures, or multimedia, supported inquiry-based teaching. Items 16 and 18 explored students' preferences for inquiry-based teaching compared to traditional lecture-based instruction. Items 20 and 22 examined whether this method fostered a sense of community among classmates and aided in developing fluency and accuracy.

In addition to capturing general impressions about the approach, the questionnaire was used to examine the following six assumptions about inquiry-based teaching, as adopted from Lee (2014):

- It fosters an effective and meaningful learning experience.
- It enhances learning motivation.
- It maintains learner attentiveness.
- It increases classroom interaction and participation.
- It is more effective when supported by visual aids or multimedia.
- It may raise anxiety levels for some students.

3.3 Research Questions and Hypothesis

The questionnaire was designed to answer the following research questions (see Lee, 2014):

1. Does inquiry-based teaching foster an effective and meaningful learning experience?
2. Does inquiry-based teaching increase learner motivation?
3. Does inquiry-based teaching increase attentiveness?
4. Does inquiry-based teaching increase classroom interaction and participation?
5. Is inquiry-based teaching more effective when supported by visual aids or multimedia?
6. Does inquiry-based teaching lead to higher anxiety for some students?

The study hypothesized that inquiry-based methods are effective at teaching Arabic as a foreign language.

4. Findings

Figure 1 illustrates the mean responses to the first part of the questionnaire. Lower mean values (closer to 1) indicate stronger agreement with the statements, while higher values (closer to 5) reflect disagreement or neutrality. As shown in the figure, participants generally agreed that the inquiry-based approach was effective, enhanced learning, and promoted interaction, although there was less agreement regarding anxiety-related aspects.
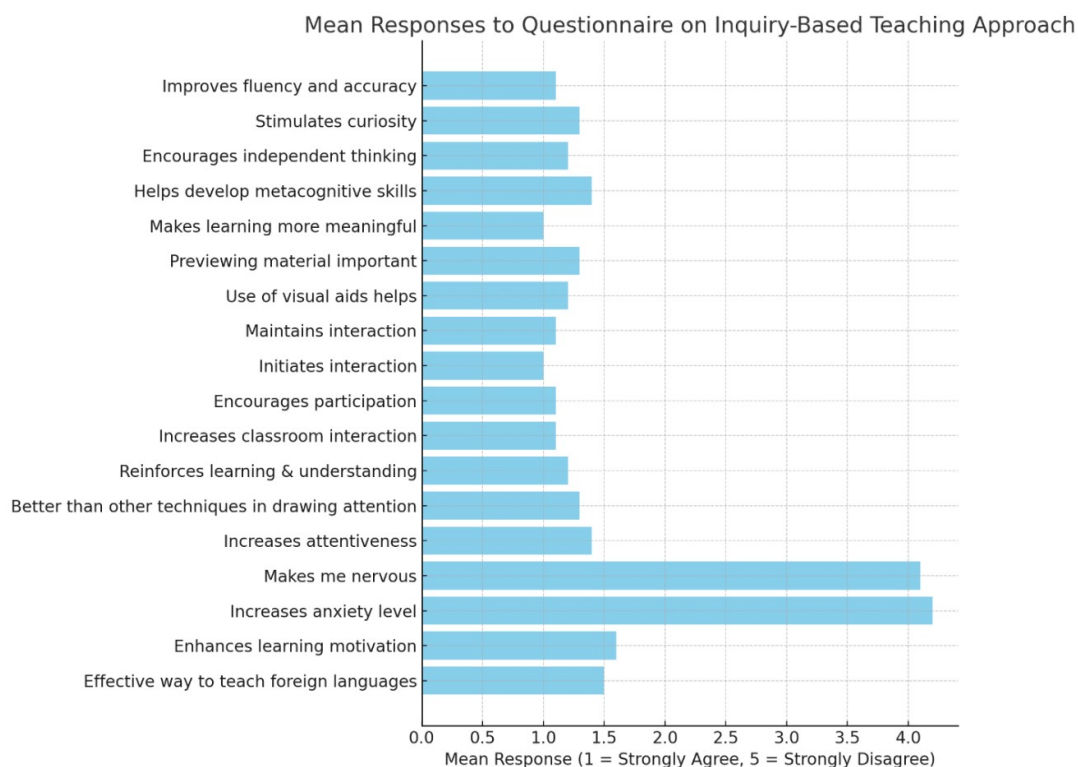

Figure 1. Mean Responses to Questionnaire Items

4.1 General Perception of Inquiry-Based Teaching

The majority of participants expressed a positive perception of inquiry-based teaching. Most rated their performance in Arabic courses as "very good" or "above average," reflecting their high satisfaction with this approach. Across academic majors, participants strongly agreed that inquiry-based teaching was an effective method for language learning, with a mean rating of 1.1 for the inquiry effectiveness question. Notably, no participants expressed a preference for traditional lecture-based teaching, and all agreed that inquiry-based teaching enhanced their understanding and retention of material.

4.2 Impact on Motivation and Classroom Engagement

Inquiry-based teaching increased students' perceived motivation and engagement in the classroom, as shown by the mean rating of 1.1 for motivation-related questions and 1.1 for attention-related questions. All participants agreed or strongly agreed that this approach increased their attentiveness during lessons, helping them stay focused and engaged. Classroom interaction was another area where inquiry-based teaching excelled, with a mean rating of 1, indicating that participants felt the method encouraged participation, collaboration, and active learning. This strong support for key aspects of inquiry-based teaching suggested that it was effective not only at delivering content but also at promoting a more interactive and dynamic learning environment.

4.3 Anxiety and Nervousness

An important finding was that inquiry-based teaching reportedly did not contribute to increased anxiety or nervousness among participants. The mean rating of 4.3 for statements like "increases anxiety level" and "makes me nervous" indicated that most participants disagreed or strongly disagreed with these claims. This result suggested that inquiry-based teaching provided a comfortable and supportive environment for most participants, allowing them to focus on learning without added anxiety. Contrary to concerns that more interactive teaching methods might induce stress, most participants reported that this approach did not cause feelings of nervousness, further validating its appropriateness for fostering a positive learning experience.

4.4 Attention and Engagement with Visual Aids

Participants consistently agreed that visual aids, such as PowerPoint presentations and realia, significantly enhanced their engagement with and understanding of material. The mean score was close to 1 for questions related to visual aids. The results indicated that visual aids helped participants grasp complex concepts more effectively and contributed to overall classroom engagement.

4.5 Preference for Traditional Lectures

The data revealed a clear preference for inquiry-based teaching over traditional lecture-based methods, as shown by the mean score of 4 for the statement "I prefer lectures," indicating that most participants disagreed with this sentiment. Participants valued the interactive and engaging nature of inquiry-based learning, in contrast to more passive lecture-based instruction. This preference aligned with the overall positive feedback on the approach's ability to enhance learning motivation, engagement, and interaction.

4.6 Development of Metacognitive Skills and Independent Learning

Inquiry-based teaching was perceived as an effective way to develop metacognitive skills and foster independent learning. With an average score close to 1, participants strongly agreed that this approach helped them think critically about their own learning processes, a key aspect of metacognitive skill development. This reflection on their learning allowed students to engage in deeper, more meaningful experiences. Additionally, participants reported that this approach encouraged independent problem-solving, essential for building lifelong learning skills. By shifting the focus from passive absorption of information to active inquiry and exploration, the approach empowered students to take ownership of their learning. The ability to independently analyze problems and find solutions is a critical outcome of inquiry-based teaching, and participants acknowledged that this teaching method significantly contributed to developing these important skills, aligning with the overall objective of this approach to cultivate critical thinking, self-regulation, and autonomy.

4.7 Statistical Analysis of Inquiry-Based Teaching's Effectiveness

The statistical analysis of the questionnaire responses revealed a strong consensus among participants regarding the effectiveness of inquiry-based teaching. Most questions had a relatively low standard deviation (ranging between 0.35 and 0.49), indicating that participants' responses were generally consistent. This consistency was particularly evident in questions related to classroom interaction, participation, and curiosity, where minimal variance reflected strong agreement on the approach's benefits. Several items, such as those about classroom interaction, showed no variability (a standard deviation of 0), indicating unanimous agreement among

participants. Overall, the relatively low standard deviations suggested a high level of agreement about the positive impact of inquiry-based teaching. Questions concerning anxiety remained significantly below the neutral value of 3, indicating that most participants did not feel that inquiry-based teaching heightened their anxiety.

The t-test results further confirmed the perceived effectiveness of inquiry-based teaching (t=15.61, p=3.90e-31), signaling strong agreement with the statements supporting it. The results for specific items about teaching effectiveness (p=0.00024) further supported the strong preference for inquiry-based teaching over traditional approaches. These results, combined with the low standard deviations, demonstrated that inquiry-based teaching was perceived as an effective method of teaching Arabic.

5. Discussion

The results strongly supported the effectiveness of inquiry-based teaching in an Arabic as a foreign language class. This aligned with previous studies on the effectiveness of inquiry-based teaching in foreign languages (Ghaemi & Mirsaeed, 2017; Hu et al., 2023; Ismail et al., 2006; Rejeki, 2017; Wale & Bishaw, 2020). Participants rated their performance as "very good" or "above average," reflecting their overall satisfaction with inquiry-based teaching. Across several key themes, participants expressed strong agreement that it enhanced their learning experience. The low average ratings for items regarding effectiveness, attention, and classroom interaction (all close to 1) demonstrated a clear consensus that this method was perceived as effective and deeply engaging. The near-unanimous agreement on classroom interaction, with no variability in responses, underscored this approach's ability to foster active participation and collaboration. These findings aligned with Brown and Campione's (1994) principles of guided discovery within a community of learners, where students are responsible for designing their learning and engaging in reciprocal teaching centered around specific themes. Participants agreed that inquiry-based teaching initiated and increased class interaction, emphasizing student voice. Brown and Campione (1994) stated that "over time, the community of learners adopts a common voice and a common knowledge base, a shared system of meaning, beliefs, and activity that is as often implicit as it is explicit" (p. 267). The positive perception of collaborative learning aligned with Van Leeuwen and Janssen (2019), who claimed that students working in groups performed better. Additionally, inquiry-based teaching reportedly increased both interaction and learning, supporting Dewey's (1983) philosophy that individuals tend to discover knowledge and build meaning through personal experience and interpersonal interactions. Participants engaged in a guided environment where they explored vocabulary and grammatical structures through inquiry, fostering interpersonal interactions driven by their questions.

Inquiry-based teaching aims to cultivate motivated, independent learners with strong metacognitive skills. The average rating of 1.1 for motivation-related items indicated strong agreement that this method enhanced students' motivation. Motivation has long been positively correlated with learning achievement (Gardner & Lambert, 1972; Lee, 2014; Masgoret & Gardner, 2003). The development of metacognitive skills and independent learning emerged as significant perceived benefits of inquiry-based teaching. Participants noted that this approach encouraged them to think critically about their learning processes, fostering ownership of their educational experiences. This outcome is crucial, as fostering metacognitive skills can lead to improved problem-solving abilities and support lifelong learning. Dai et al. (2011) highlighted that one of the goals of inquiry-based teaching is to achieve a new level of cognitive and metacognitive engagement. Lee (2014) defined metacognition as "awareness of one's own learning processes, which allows individuals to manage their thinking effectively" (p. 3). By placing the responsibility for learning on the students themselves, inquiry-based teaching promotes independence. This emphasis on student ownership was aligned with Brown and Campione (1994) and Dai et al. (2011), who argued that inquiry-based teaching helped students become independent thinkers, a concept rooted in Dewey's (1933) philosophy.

A key finding was related to anxiety and nervousness. While some variability was observed in responses related to anxiety (with an average score of 4.3), most participants disagreed with the notion that inquiry-based teaching increased anxiety. This suggested that, despite the interactive nature of inquiry-based methods, the majority of students reported feeling comfortable and did not experience heightened anxiety. This finding challenges common concerns that more student-centered methods might induce stress, particularly in language learning, which can be anxiety-inducing for some learners. Similarly, in Lee's (2014) study, while 27% of students reported increased anxiety due to inquiry-based teaching, the majority did not experience a negative impact.

The low standard deviations across most items reflected a high level of agreement among participants, and the t-test results (t=-15.61, p=3.90e-31) provided overwhelming evidence supporting the study's hypothesis. These

findings confirmed that participants found the inquiry-based approach significantly more effective than traditional teaching methods.

6. Conclusion

The findings of this study suggested that inquiry-based teaching could be highly effective for teaching Arabic as a foreign language. Participants overwhelmingly supported this method, citing its ability to enhance their learning motivation, improve classroom interaction, and develop critical thinking and independent problem-solving skills. Importantly, the method did not appear to increase anxiety, as most participants felt comfortable engaging with the material in a more interactive and dynamic learning environment. The statistical results provided robust evidence of the method's effectiveness, with significant agreement across key themes. These findings suggest that inquiry-based teaching not only meets the educational needs of students but also fosters a more active and participatory learning experience. As language instruction evolves, this approach offers a promising alternative to traditional lecture-based methods, aligning with modern pedagogical goals of student-centered learning and critical engagement.

While the study has highlighted the benefits of inquiry-based teaching, it is equally important to acknowledge the potential challenges in its broader adoption, particularly in Arabic instruction. One of the most significant barriers is the traditional mindset prevalent among both educators and learners, where teacher-centered methods are deeply ingrained. Many Arabic instructors may be unfamiliar with the principles of inquiry-based teaching or lack the necessary training to implement it effectively. This is compounded by the lack of instructional materials designed for inquiry-based teaching in Arabic education, which could limit its practical application in many classrooms.

Moreover, this study was conducted with a small, relatively homogenous group of students in a controlled environment. For inquiry-based teaching to gain wider acceptance and applicability, further research is needed that explores its impact across diverse learning contexts, including different levels of proficiency, cultural backgrounds, and educational settings. Additionally, while inquiry-based teaching was shown to reduce anxiety for most participants, it is important to consider that some learners might experience increased anxiety due to the open-ended nature of inquiry-based tasks, particularly if they lack prior exposure to this teaching method. This underscores the need for teacher training to guide students through the inquiry process and provide adequate support for those who may struggle with its demands.

Looking ahead, there are several avenues for future research that could build on the findings of this study and address its limitations. First of all, the present study had a relatively small sample size. Therefore, to increase the generalizability of the findings, future studies could collect data from a larger number of participants. Future research could likewise benefit from a control group that receives traditional instruction. Longitudinal studies could explore the long-term impact of inquiry-based teaching on Arabic proficiency, tracking students' progress over time and comparing their outcomes with those taught through more traditional methods. Researchers could investigate the integration of technology, such as digital tools and online platforms, to support inquiry-based teaching in virtual or blended classrooms. Given the global rise in online language learning, this area holds great promise for expanding the reach of inquiry-based teaching. Future research could also explore the applicability of this approach across different learning contexts, such as writing. Additionally, examining specific strategies for effectively integrating inquiry-based teaching in diverse classroom settings could further enhance its implementation.

This study demonstrates that inquiry-based teaching offers a transformative approach to Arabic instruction, with significant potential to enhance students' language acquisition, classroom engagement, and overall learning experience. However, its successful implementation will require a concerted effort to train educators, develop suitable instructional materials, and further explore its effectiveness across diverse educational contexts. By embracing inquiry-based teaching, Arabic educators can equip students with the critical thinking, autonomy, and communicative competence needed to navigate the complexities of Arabic language and culture in today's globalized world.

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