



Digital Informal Learning Environments (DILEs): New Frontiers in Arabic Language Pedagogy and Cultural Fluency

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Abstract:

This study aims to examine how Digital Informal Learning Environments (DILEs) facilitate Arabic language learning and integrate cultural understanding beyond formal classroom contexts. A qualitative research design with a case study approach was employed. Data were collected through in-depth interviews with Arabic language learners and teachers and document analysis of digital learning materials and interaction records. Data were analyzed through data condensation, data display, data verification, and conclusion drawing, with trustworthiness established through source and methodological triangulation and member checking. The findings show that DILEs provide flexible opportunities for practicing speaking, listening, reading, and writing while exposing learners to Arabic traditions, festivals, social values, films, news, and contemporary issues. Cultural exposure strengthens learners' understanding of Arabic social and cultural contexts and supports more natural, appropriate, and relevant language use. The study concludes that DILEs function as sociocultural learning environments that connect digital interaction, cultural understanding, and contextual Arabic communication. The findings imply that Arabic educators should strategically integrate authentic digital and cultural resources into complementary language learning activities.

INTRODUCTION

The Digital Informal Learning Environments (DILEs) represents a significant change in the way language and culture are taught, especially in the context of Arabic language pedagogy (Sari & Sidik, 2025). The advent of digital technologies, including mobile apps, social media platforms, and online resources, has changed the paradigm of traditional education (Ediyani et al., 2025; Faiqoh et al., 2025). With increased accessibility to the internet, learners are no longer

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limited to formal classroom settings to acquire knowledge and skills. This is especially important for Arabic language education, where students around the world strive to master the language while also understanding its rich cultural context (Wahyuni et al., 2026; Wandana et al., 2025). Given the importance of Arabic in global communication, especially in areas such as diplomacy, business, and religious studies, there is an urgent need to explore how digital tools can foster cultural fluency in addition to language proficiency (Mayer, 2025; Nurfadhila et al., 2025). Our research addresses this need by investigating how DILE can shape Arabic language education and improve cultural fluency, an essential component of mastering any language. Thus, this research offers a timely and significant contribution to language education and the digital learning landscape.

In recent years, Arabic teaching and learning has faced significant challenges, especially in non-Arabic-speaking areas (Islami et al., 2026). Traditional pedagogical methods, including formal classrooms and textbooks, have shown limitations in effectively engaging learners and fostering deep cultural understanding (Ghani & Daud, 2023; Maryam et al., 2025). Despite the availability of many digital resources, many learners still face difficulties in acquiring the linguistic skills and cultural competencies necessary to communicate effectively in Arabic (Baharun et al., 2026). The main problem is the gap between conventional educational models and the more dynamic, informal, and interactive opportunities provided by digital platforms. Many learners are less exposed to real-world cultural contexts in their language studies, which hinders their ability to use Arabic meaningfully and confidently in social and professional settings (Maghfurin et al., 2026; Samsudin & Purnawan, 2025). This research addresses this gap by exploring how DILE can improve Arabic language teaching and promote cultural fluency outside the classroom.

In recent years, important changes have occurred in the way people engage with learning Arabic. While traditional formal education methods remain dominant, digital platforms such as online forums, social media groups, and language learning apps have gained significant popularity among learners (Zaenuri et al., 2025). The platform provides an interactive and engaging environment that encourages learners to practice Arabic in real-life contexts, such as in discussions about current events, cultural traditions, and social norms (Rosiana et al., 2025). However, despite their widespread use, these informal digital platforms often lack a structured pedagogical approach, which can lead to inconsistencies in language acquisition and cultural understanding (Seyidov, 2025). Some learners may only gain partial fluency, missing key aspects of Arabic culture that are essential for effective communication. As such, there is a clear need to examine how DILE can be optimized for language acquisition and cultural fluency.

Several studies have explored the role of technology in language education, with a particular focus on the integration of digital platforms in second language acquisition. Researchers such as Almelhes (2024) have highlighted the positive impact of mobile applications and social media in improving language learning (Almelhes, 2024). These tools allow learners to practice language skills in a

dynamic real-world context, offering a level of interaction unmatched by traditional textbooks and classroom settings. However, most research focuses on language skills separately, without adequately addressing the integration of cultural understanding into the digital language learning environment. Although the importance of cultural fluency is recognized, there is still a lack of research exploring how digital informal spaces can simultaneously teach linguistic and cultural aspects (Nasirudeen & Lawal, 2025). This gap is a significant challenge for educators and highlights the need for a more comprehensive approach.

In addressing this gap, some researchers have turned to blended learning environments that combine traditional classroom methods with digital tools. The study recognizes the importance of combining formal and informal learning opportunities to provide a more holistic education. However, there is limited research on how informal digital spaces can be leveraged specifically for the teaching of Arabic language and culture (Riwanda et al., 2024; Siregar et al., 2025). Our research seeks to fill this gap by focusing on Arabic language pedagogy in informal digital environments, analyzing how learners engage with cultural content alongside language practice. This study aims to contribute a new perspective by examining the specific role that DILE can play in fostering not only language skills, but also cultural competence in Arabic language learners, which remains an important aspect of language proficiency.

The novelty of this research lies in its focus on the Digital Informal Learning Environment as a means to improve Arabic language proficiency and cultural fluency. While many studies have examined digital tools for language learning, few have explored how these tools can be specifically utilized to teach language and culture simultaneously. As global communication increasingly relies on digital technology, the need for culturally competent Arabic speakers is more urgent than ever. Our research opens up new avenues by integrating linguistic and cultural dimensions within the framework of informal digital learning, providing new insights into how technology can be used not only to teach languages but also to offer learners a deeper understanding of the cultural context in which they are used. This study aims to reshape the way digital platforms are used in Arabic language education, making them more inclusive of cultural fluency.

The main research problem is to explore how Digital Informal Learning Environments (DILEs) can be leveraged to improve Arabic language skills and cultural fluency. Previous studies have focused on the linguistic or cultural aspects of language learning, but few have addressed the integration of the two in informal digital settings. Our research argues that DILE offers a unique opportunity to teach Arabic in a contextually rich and linguistically powerful way. By examining the use of DILE for Arabic language pedagogy, we seek to provide a more comprehensive approach to language learning one that emphasizes the importance of cultural fluency in addition to language acquisition. The findings of this research will contribute to the development of more effective and engaging Arabic language learning models that can be used in diverse digital spaces.

RESEARCH METHODS

This study employed a qualitative research design with a case study approach to explore how Digital Informal Learning Environments (DILEs) are used in Arabic language learning and how learners experience the integration of linguistic and cultural learning through digital platforms. A case study was selected because the study focuses on examining a contemporary phenomenon within its natural and bounded context, particularly the use of DILEs in Arabic language learning at an educational institution. This design enabled the researchers to obtain an in-depth understanding of learners' and teachers' experiences, patterns of digital interaction, and the ways in which cultural knowledge is incorporated into Arabic language practices.

The study was conducted at MI Peterongan in Jombang an educational institution that provides Arabic language learning and facilitates the use of digital platforms in language learning activities. The location was purposively selected because it provides a relevant context for examining the use of DILEs, including language-learning applications, social media, online discussion groups, and other digital resources. The setting also enabled the researchers to examine how learners and teachers use digital environments to access Arabic language and cultural materials and apply them in learning and communication activities.

Data were collected through in-depth interviews and document analysis. The interviews involved Arabic language learners and teachers who had direct experience using digital platforms for Arabic language learning or teaching. The interviews explored participants' experiences in using DILEs, including the types of digital platforms and learning activities they engaged in, patterns of interaction with Arabic language and cultural materials, and their perceptions of the platforms' usefulness for learning. Particular attention was given to participants' experiences in developing speaking, listening, reading, and writing skills, as well as their exposure to Arabic cultural traditions, values, social issues, films, and other cultural materials. Document analysis was conducted on relevant digital learning materials and interaction records available from the selected platforms, including discussion posts, shared learning materials, and other learning-related digital content. These documents were analyzed to complement the interview data and identify patterns of Arabic language use and cultural engagement in DILEs.

The data were analyzed through four iterative stages data condensation, data display, data verification, and conclusion drawing (Afifuddin et al., 2025). First, the researchers condensed the interview transcripts and documentary data by selecting, coding, and organizing information relevant to DILE use, Arabic language practice, and cultural understanding. Second, the condensed data were displayed in thematic matrices to identify recurring patterns and relationships among the emerging categories. Third, the researchers verified the emerging interpretations by comparing evidence across participants and data sources and by examining contradictory or differing accounts. Finally, conclusions were drawn by synthesizing the verified patterns into broader themes concerning the role of

DILEs in Arabic language and cultural learning. The analysis was conducted iteratively, allowing the researchers to move between the data, codes, categories, and emerging themes throughout the research process.

RESULTS AND DISCUSSION

Results

Arabic Skills Improvement through DILEs

In this study, Digital Informal Learning Environments (DILEs) refer to digital platforms used for learning Arabic outside the formal context. DILEs include a variety of digital resources such as language learning apps, discussion forums, social media groups, and learning videos that allow for direct interaction between learners or with native speakers. The platform provides an opportunity for learners to practice in real-time in a more relaxed and less structured context compared to learning in a formal classroom. DILEs allow learners to communicate using Arabic in more flexible and practical situations, with a focus on speaking, writing, listening, and reading skills.

The first informant, a student who actively uses Arabic language learning apps, explained that DILEs provide ample space for him to practice speaking and listening skills. "I often use Arabic apps to talk to friends from different countries. The app also lets me listen to conversations in Arabic, which helps me get used to the correct pronunciation and intonation." Based on these interviews, it can be concluded that DILEs help learners improve their speaking and listening skills in Arabic effectively through hands-on practice and interaction with native speakers or fellow learners.

The second informant, an Arabic teacher who integrates social media and discussion forums in Arabic teaching, added, "Through discussion groups on social media, students and I can share experiences in solving Arabic problems, both in writing and reading. It gives them the opportunity to train more naturally and spontaneously." From these interviews, it can be seen that discussion forums and social media allow for more direct interaction and allow learners to practice writing and reading skills in a more informal but still effective way.

The researcher observed the interactions that occurred in Arabic discussion forums on social media platforms and learning applications. The results of the observations showed that most of the interactions that occurred focused on discussions related to the use of words or sentence structures in the context of daily life. Many learners use Arabic to communicate spontaneously, for example in sharing opinions about Arabic culture or discussing current news in Arabic. This shows that DILEs not only improve linguistic skills, but also enable contextual application of language in real conversations.

From interviews and observations conducted, researchers found that DILEs are very effective in improving Arabic speaking, writing, listening, and reading skills. Learners not only learn languages theoretically but also practice languages in a more free and dynamic social context. In this case, DILEs provide an opportunity for learners to apply Arabic in situations that are closer to everyday use, which is difficult to achieve in formal language teaching.

The pattern seen from the results of the interviews and observations is that DILEs have a positive impact on Arabic language skills, with a primary focus on speaking and listening skills, which can be practiced in hands-on interactions. In addition, DILEs also strengthen writing and reading skills through the use of social media and discussion forums that allow learners to write in Arabic more naturally. Overall, these digital platforms serve as a complement to formal Arabic learning, providing a more flexible and contextual learning experience.



Figure 1. Students' Engagement with Digital Platforms for Arabic Language Practice

Figure 1 show that student engagement with digital platforms as part of Arabic language practice within a Digital Informal Learning Environment (DILE). The image on the left shows students collaboratively using digital devices to access learning materials, discuss content, and interact with peers; this reflects the role of DILEs in facilitating collaborative and flexible language practice. Meanwhile, the image on the right depicts students interacting individually with tablets and laptops, highlighting opportunities for autonomous learning, access to Arabic language resources, and practice at one's own pace. These activities support the development of both receptive and productive Arabic language skills specifically speaking, listening, reading, and writing by enabling learners to engage with language materials in a more contextual and less formal setting. Thus, the images reinforce the finding that DILEs complement formal Arabic language instruction by offering learners the chance to practice the language in a more natural, interactive, and dynamic manner through both collaborative and individual digital activities.

Integration of Cultural Understanding in Arabic Language Learning

The integration of cultural understanding in Arabic language learning through Digital Informal Learning Environments (DILEs) refers to the use of digital platforms that incorporate Arabic cultural materials in the Arabic language learning process. DILEs, such as learning apps, social media groups, and online discussion forums, provide learners with access to not only learn Arabic, but also understand the traditions, social values, and current developments in Arabic culture. This learning takes place in an environment that is not bound by time and place, allowing learners to interact with native speakers and fellow learners in a more authentic cultural context. In this study, we focus on how learners access and apply the cultural knowledge gained from DILEs in real conversations in Arabic.

The first informant, an Arabic language learner who is active in social media discussion forums, explained that understanding Arabic culture was greatly helped

through the platform. "In this forum, we often discuss Arab cultural festivals, such as Eid al-Fitr, and social values related to religion. I feel more aware of Arabic culture after being involved in these discussions, and it helps me speak more naturally in Arabic," he said. Based on these interviews, it can be seen that discussions about Arabic cultural traditions and values in DILEs help learners improve their understanding of the culture associated with the language.

The second informant, an Arabic teacher who uses learning apps and social media in his teaching, added, "I invite my students to watch Arabic movies and read articles on recent social and cultural developments. They find it easier to understand the nuances of Arabic culture and start using Arabic more in the context." From these interviews, it was revealed that by introducing cultural material through current films and articles, DILEs provide learners with broader insights into a more vibrant social and cultural life, which in turn helps them use Arabic more appropriately and contextually.

Observations were made of interactions in a social media group that discussed current issues in the Arab world, including politics, art, and tradition. The results of observations show that many Arabic language learners participate in discussions related to Arabic social and cultural values. They not only talk about the language, but also share experiences about how Arabic culture affects their daily communication. The researchers note that these discussions not only improve speaking skills in Arabic, but also enrich learners' cultural understanding, allowing them to apply the language with a more appropriate context.

From the interviews and observations conducted, the researchers concluded that DILEs are very effective in helping learners to integrate understanding of Arabic culture in language learning. Digital platforms allow learners to gain authentic and dynamic cultural knowledge through hands-on discussions and up-to-date materials. This not only improves their language skills, but also allows learners to understand the social and cultural context inherent in the use of Arabic in everyday life. The learning carried out in DILEs provides a more in-depth and applicative cultural feel for learners, so that they can use Arabic more naturally and relevantly.

A pattern that can be seen from the results of interviews and observations is that learners who engage in cultural discussions through DILEs tend to have a better understanding of the Arab social and cultural context. In addition, they are able to integrate this cultural knowledge in their conversations, both verbally and in writing. These data show that learning Arabic through DILEs not only enriches language skills, but also strengthens understanding of Arabic culture, which in turn allows learners to use the language more appropriately in social and cultural contexts. The findings further reveal a sequential pattern in how DILEs facilitate the integration of cultural understanding into Arabic language learning. Learners' engagement with digital platforms creates opportunities for exposure to Arabic cultural content, which subsequently supports their understanding of social and cultural contexts and enables them to apply Arabic more naturally and appropriately in communication. This interconnected process is illustrated in Figure 2.

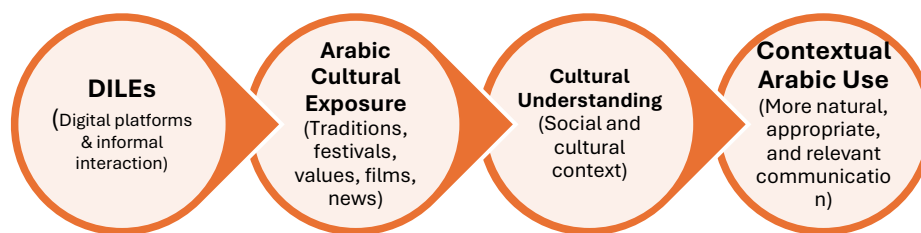


Figure 2. The Process of Integrating Cultural Understanding into Arabic Language Learning through DILEs

Figure 2 show a four-stage process of cultural integration in Arabic language learning through DILEs, beginning with the use of digital platforms and informal interaction, followed by exposure to Arabic cultural content such as traditions, festivals, values, films, and current news. This exposure contributes to learners' cultural understanding, particularly of Arabic social and cultural contexts, which is subsequently reflected in their contextual use of Arabic through more natural, appropriate, and relevant communication. Overall, the figure indicates that DILEs provide a pathway through which digital interaction and cultural exposure can enrich both learners' cultural awareness and their ability to use Arabic appropriately in authentic contexts.

The patterns seen from the above data suggest that learners who are actively involved in cultural discussions and who access Arabic cultural materials tend to have a better understanding of the Arab social and cultural context. This allows them to use Arabic in a more natural context and relevant to everyday life. Therefore, DILEs make a significant contribution to improving cultural understanding as well as Arabic language skills, making them an effective tool in more thorough and applicable language learning.

Challenges and Opportunities in the Use of DILEs

Challenges and opportunities in the use of Digital Informal Learning Environments (DILEs) for Arabic language learning refer to the problems and benefits experienced by learners and teachers in utilizing digital platforms to learn Arabic. The main challenges faced are often related to the lack of structured materials, difficulties in distinguishing between credible and non-credible sources of information, and lack of direct interaction with teachers or mentors. On the other hand, DILEs also offer great opportunities, such as easy access to a wide variety of learning materials, hands-on interaction with native speakers, as well as the ability to tailor the learning experience according to the individual needs of learners. This research focuses on how these challenges affect learning effectiveness and how existing opportunities can be maximized to support better learning of the Arabic language.

The first informant, an Arabic language student who uses language learning apps and social media to learn, revealed some of the challenges he faced. "Although I was able to access a lot of Arabic learning materials for free on the internet, I had a hard time finding well-structured materials. The number of unreliable sources

also made me confused in choosing the right reference for studying." From these interviews, it can be concluded that although DILEs provide access to a vast amount of material, the lack of structure and credibility of the source material becomes a significant obstacle for learners in acquiring a correct and thorough understanding of the Arabic language.

The second informant, an Arabic teacher who integrates DILEs in teaching, also highlighted the challenges faced by students in using digital platforms. "One of the biggest challenges was the lack of direct guidance from me as a teacher. Students often learn independently through apps and forums, and I'm afraid they'll gain an understanding that isn't entirely correct. However, they benefit from flexibility in learning that can be adjusted at their own pace." Based on these interviews, it can be seen that although DILEs provide flexibility in learning, the lack of direct interaction with teachers is still an obstacle in ensuring proper understanding for students.

The researcher observed the interaction in several Arabic language learning platforms that used DILEs. The results of observations show that although learners can access a wide range of learning materials and interact with fellow learners or native speakers, they tend to have difficulty in filtering out the right and relevant information. In addition, some learners seem frustrated that there is no direct supervision or guidance from the teacher to correct their mistakes. This observation shows that there is a dependence on independent interaction that can affect the quality of learning.

From interviews and observations conducted, researchers concluded that DILEs have two sides: challenges and opportunities. The most dominant challenges are the unavailability of well-structured material and the difficulty in distinguishing credible sources. In addition, the lack of direct guidance from teachers is also an obstacle for learners in understanding Arabic correctly. However, DILEs also provide great opportunities in the form of easy access to more varied material and direct interaction with native speakers, allowing learners to practice more flexibly and according to their individual learning pace.

The pattern seen from the results of interviews and observations is that the challenges faced in the use of DILEs are related to the quality and credibility of the materials available, as well as the lack of direct guidance from teachers. However, the opportunities offered by DILEs, such as flexibility in learning and access to native speakers, provide a more diverse and contextual learning experience. This data shows that despite the challenges in utilizing DILEs, the potential of these digital platforms is huge in improving Arabic language learning, provided that issues related to learning quality and supervision can be overcome.

Table 3. The Use of DILEs for Arabic Language Learning

Informant Position	Interview Excerpts	Indicator
Student (Learner)	"Although I can access a lot of Arabic learning materials for free on the internet, I have a hard time finding well-structured materials."	Structured material, source credibility

Arabic Teacher	"One of the biggest challenges was the lack of direct guidance from me as a teacher. Students often learn independently through apps and forums."	Lack of hands-on guidance, learning flexibility
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Table 3 shows that the two main challenges encountered in the use of DILEs are the lack of structured material and the credibility of sources that cannot be guaranteed (learners), as well as the lack of direct guidance from the teacher (the teacher). Learners are more often faced with difficulties in choosing the right and quality materials, while teachers are worried because students are learning independently without adequate supervision. On the other hand, both also show great opportunities, namely easy access to diverse materials and flexibility in learning, which allows learners to adjust their learning pace.

The patterns that emerge from the above data show that the biggest challenge in the use of DILEs is quality and supervision in learning. Learners struggle to get structured and credible material, while teachers feel that the lack of guidance directly affects the quality of learning. However, the opportunities offered by DILEs, such as learning flexibility and access to more diverse materials, show great potential in enhancing Arabic language learning if these challenges can be overcome. DILEs have a lot of potential, but to achieve success, there must be improvements in material quality supervision and direct guidance.

Discussion

The findings demonstrate that Digital Informal Learning Environments (DILEs) provide learners with flexible opportunities to practice Arabic through digital platforms beyond formal classroom settings. This finding is consistent with literature emphasizing informal digital learning as a space for interaction, learner participation, and access to diverse language resources (Antar & Elsayed, 2025; Jabir et al., 2026). From Vygotsky's Sociocultural Theory, particularly the concept of mediation, DILEs can be understood as technological and cultural tools through which learners construct linguistic knowledge through interaction with others (Poehner & Lu, 2023). In this study, learning applications, social media groups, and online forums mediated learners' engagement with Arabic through speaking, listening, reading, and writing activities (Drajati et al., 2024; Muezzin et al., 2023). Unlike approaches that position digital platforms merely as supplementary technological resources, the findings indicate that DILEs operate as sociocultural spaces in which learning emerges through participation and interaction. Theoretically, this extends the application of sociocultural perspectives to informal Arabic learning, while practically encouraging teachers to utilize digital platforms as mediated environments for meaningful language practice.

The findings further show that exposure to Arabic cultural materials through DILEs contributes to learners' understanding of social and cultural contexts. This finding supports Byram's Intercultural Communicative Competence (ICC) framework, which emphasizes the importance of cultural knowledge, attitudes, and the ability to interpret and interact across cultural contexts (Hambardzumyan,

2025). Learners in this study encountered traditions, festivals, religious and social values, films, current news, and discussions concerning contemporary issues in the Arab world (Drajati et al., 2024; Muezzin et al., 2023). Such exposure enabled them to move beyond learning linguistic forms toward understanding how Arabic is embedded within particular social and cultural meanings. This finding is consistent with previous research linking language learning with intercultural understanding, but it extends that literature by demonstrating how informal digital environments facilitate continuous access to culturally situated materials (Antar & Elsayed, 2025; Jabir et al., 2026). The theoretical implication is that DILEs can support the development of ICC alongside linguistic competence. Practically, teachers can incorporate culturally authentic digital materials to strengthen contextual and intercultural Arabic learning.

The study also reveals that interaction within DILEs enables learners to use Arabic more spontaneously, naturally, and contextually. This finding can be interpreted through both Vygotsky's Sociocultural Theory and Byram's ICC framework. From Vygotsky's perspective, interaction functions as a mediational process through which learners develop language through socially situated activity (Zahrah, 2026). From Byram's perspective, interaction provides opportunities to develop skills of interpreting, relating, discovery, and interaction (Harper, 2023). In the present study, learners discussed cultural festivals, social values, everyday experiences, and contemporary issues rather than engaging only in decontextualized language exercises (Li et al., 2025; Mastang et al., 2026). This distinguishes the findings from studies that primarily emphasize digital platforms as sources of language input. The contribution of the present study is therefore the identification of a connection between digital interaction and culturally situated language use. Practically, Arabic teachers should design digital activities that require learners to communicate, interpret cultural meanings, exchange perspectives, and apply Arabic appropriately within authentic social contexts.

Another important finding is that learners who actively participated in cultural discussions and accessed Arabic cultural materials tended to demonstrate stronger understanding of the Arab social and cultural context and were able to integrate this knowledge into spoken and written communication (Abdullah et al., 2026; Bahrudin et al., 2024; Drajati et al., 2024). This pattern reinforces Byram's argument that intercultural competence involves not only possessing cultural knowledge but also using that knowledge during interaction. At the same time, the finding supports Vygotsky's view that knowledge develops through participation in socially and culturally mediated activities (Taber, 2025). The present study therefore contributes a more integrated interpretation of DILEs by showing that cultural understanding is not an isolated learning outcome but becomes connected with actual language use through digital interaction. This extends previous literature by highlighting the relationship between cultural exposure, interpretation, and contextual communication in informal Arabic learning (Affuddin et al., 2025;

Istiqomah & Sopian, 2025). Practically, institutions should provide guided online discussions and culturally relevant digital tasks that encourage learners to critically interpret cultural content and apply appropriate Arabic expressions in communicative situations.

Overall, the findings suggest a process in which DILEs function as mediational environments that connect digital interaction, cultural exposure, cultural understanding, and contextual Arabic use. This process can be theoretically explained through the complementarity of Vygotsky's Sociocultural Theory and Byram's ICC framework. Vygotsky explains how digital platforms and social interaction mediate learning, while Byram explains how cultural knowledge and intercultural interaction contribute to appropriate communication (Wang & Teo, 2024). The proposed interpretation therefore extends the understanding of DILEs beyond their role as technological tools by positioning them as sociocultural spaces for integrated linguistic and intercultural development. The practical contribution lies in providing Arabic educators with a conceptual basis for designing complementary digital learning activities that combine language practice with authentic cultural engagement. Nevertheless, because the study employs a qualitative case-study design, the findings should be interpreted as contextual patterns rather than evidence of causal effects. Further research could examine whether this process occurs across different Arabic learning contexts and learner populations.

CONCLUSION

This study concludes that Digital Informal Learning Environments (DILEs) provide more than flexible spaces for practicing Arabic; they function as sociocultural learning environments that connect digital interaction, cultural exposure, cultural understanding, and contextual Arabic use. The key lesson is that Arabic learning becomes more meaningful when learners actively engage with authentic cultural materials and communicate within socially situated digital environments, rather than relying solely on formal classroom instruction. Theoretically, the study contributes by bringing together Vygotsky's Sociocultural Theory, particularly mediation and social interaction, with Byram's Intercultural Communicative Competence framework, demonstrating how digital environments can mediate the simultaneous development of linguistic and intercultural competence. Practically, the findings provide a basis for Arabic educators to integrate learning applications, social media, forums, videos, and culturally relevant materials into complementary learning activities. However, the study is limited by its qualitative case-study design and context-specific setting, which limits generalization. Future research should examine diverse institutions and learner populations and consider longitudinal or mixed-method designs to investigate how sustained DILE engagement relates to Arabic linguistic and intercultural development.

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CONFLICTS OF INTEREST

The author declares that there are no conflicts of interest that could have influenced the research or publication of this manuscript.

USE OF ARTIFICIAL INTELLIGENCE (AI)-ASSISTED TECHNOLOGY

AI tools, including ChatGPT, Grammarly, and translation applications, were used solely for language editing, grammar correction, and improving academic clarity. All AI-assisted content was reviewed and revised by the author, who takes full responsibility for the manuscript.

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