



Challenges of Arabic Language Education Students in The 4th Semester of STIT Madani Yogyakarta in Learning Arabic Based on The Use of Technology

Mutik Komalasari^{1*}, Rika Anggraini², Sri Mulyani³, Eko Ngabdul Shodikin⁴

^{1,2,3,4} Sekolah Tinggi Ilmu Tarbiyah Madani Yogyakarta, Indonesia

*Corresponding E-mail: mutikomala27@gmail.com

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Abstract

Digital transformation in education has reshaped the paradigm of Arabic language learning in higher education, particularly for female students who face distinctive challenges in adapting technology to master a linguistically complex language. This study aims to analyze and describe the challenges encountered by fourth-semester female students of the Arabic Language Education Study Program at STIT Madani Yogyakarta in technology-based Arabic learning and the strategies they developed to adapt. Employing a qualitative phenomenological approach, data were collected through in-depth semi-structured interviews, observations, and documentation involving four purposively selected female students. The small sample size was intentionally chosen to allow for an in-depth exploration of individual experiences and contextual nuances, consistent with the phenomenological design. Data were analyzed thematically using Braun and Clarke's framework, emphasizing credibility, transferability, dependability, and confirmability. The findings reveal three main categories of challenges: technical (device limitations, unstable internet, and limited data), psychological (low motivation, distractions, and language anxiety), and socio-economic (financial constraints and an uncondusive learning environment). Despite these barriers, participants demonstrated adaptability through self-regulated strategies, including the use of digital platforms, artificial intelligence (AI) tools, and peer collaboration. The novelty of this research lies in its exploration of female student' lived experiences in Islamic higher education, integrating gender, socio-cultural, and technological perspectives in Arabic language learning. This study highlights the need for hybrid learning models that combine technology with face-to-face interaction, enhance lecturers' TPACK competencies, and promote gender-responsive curricula for more inclusive Arabic language education in the digital era.

Keywords: Female students, Arabic language learning, Technology adaptation, Digital transformation

Introduction

Digital transformation in education has fundamentally changed the learning paradigm, especially in the context of Arabic language learning in higher education. College students as digital natives face unique challenges in adapting technology for Arabic language learning which has complex linguistic characteristics (Puthiya et al., 2023). This phenomenon becomes even more relevant when considering that 4th semester students are at a critical phase in mastering Arabic maharah (skills) which include istima' (listening), kalam (speaking), qira'ah (reading), and kitabah (writing).

The context of Arabic language education students at STIT Madani Yogyakarta shows its own complexity in the implementation of technology-enhanced language learning (TELL). The characteristics of 4th semester female students who are at the transition stage from basic learning to the intermediate level require a targeted pedagogical approach (Alakrash & Razak, 2021). The diverse socioeconomic backgrounds of female students create disparities in access to technology and digital literacy, which in turn affects the effectiveness of technology-based learning. This condition is exacerbated by the reality that most female college students come from families with middle to lower economic levels, so access to advanced technological devices and stable internet connections is a challenge in itself (Evy Nur Rohmawaty et al., 2024).

Digital literacy of female students in the context of Arabic language learning has a different dimension from digital literacy in general. College students are not only required to master technology as a tool, but must also be able to integrate the technology to master the complex system of Arabic writing, phonology, morphology, and syntax (Gulnaz et al., 2020). Research shows that female students with pesantren education backgrounds have a different baseline in terms of digital literacy compared to female students from general education backgrounds, which creates its own challenges in the technology-based learning process.

The motivation and learning habits of 4th semester female students also experienced significant changes in the digital era. This generation of digital natives has high expectations for interactive and engaging learning experiences. However, reality shows that female students often experience digital fatigue and difficulty in maintaining focus during online learning. The multitasking phenomenon that characterizes the digital generation does not always have a positive impact in the context of Arabic language learning which requires high concentration to understand complex linguistic structures.

The special challenges faced by female students in technology-based Arabic language learning cannot be separated from the unique characteristics of Arabic as a Semitic language. The right-to-left writing system, the variation of letter shapes based

on position in the word, and the complex system of harakat (punctuation marks) require a specific technological approach (Satar et al., 2024). Students must adapt the reading and writing habits that have been formed in the context of Indonesian and English to be applied in learning Arabic through digital platforms. This creates a high cognitive load and has the potential to cause learning anxiety which can hinder the learning process.

The psychological aspect of female students in dealing with technology-based learning also shows its own complexity (Raya, 2025). Fourth semester students are in a phase of psychological development that is still looking for academic and professional identity, so technological challenges can affect their self-efficacy and motivation to learn. The phenomenon of imposter syndrome that is often experienced by female students in the context of technology learning can be exacerbated by difficulties in mastering Arabic, which is already considered conventionally difficult. The interaction between gender, technology, and Arabic language learning creates a complex dynamic that requires in-depth understanding to optimize the learning process.

Previous research shows that female students have different learning patterns from male students in the context of using technology for language learning (Alhusban, 2022). Female students tend to be more detailed and systematic in their approach to learning, but also more sensitive to technical and psychological barriers. These characteristics are important factors in understanding the specific challenges that female students face in technology-based Arabic language learning. In addition, social and cultural expectations of female students in the context of Islamic religious education also add a dimension of complexity to the learning process.

The context of Arabic language learning in Islamic religious universities such as STIT Madani Yogyakarta has unique characteristics compared to Arabic language learning in general universities. Students are not only required to master Arabic as a language of communication, but also as a language to understand complex religious texts (turāth). The integration of technology in learning Arabic for religious purposes requires a holistic approach and is sensitive to the religious values embraced by

female students. This phenomenon creates its own challenges in terms of selecting technology platforms, learning content, and methodologies that are in line with Islamic values.

Based on the existing literature review, there is a significant research gap in understanding the specific challenges faced by female students in technology-based Arabic language learning. Most of the previous studies focused on technical and pedagogical aspects in general, but paid less attention to the specific gender, psychological, and socio-cultural dimensions experienced by female students (Daud et al., 2021). The scientific novelty of this study lies in its in-depth focus on the experiences of female students as learning subjects who have unique characteristics in the context of technology-based Arabic language learning in Islamic religious colleges. This research also explores the complex interactions between the individual factors of female students, the linguistic characteristics of the Arabic language, and the implementation of technology in learning.

Based on the background that has been described, the problem formulations in this study are: How are the challenges faced by 4th semester female students of the Arabic Language Education Study Program of STIT Madani Yogyakarta in technology-based Arabic language learning? This problem formulation includes technical, psychological, and socio-cultural dimensions specifically experienced by female students in the context of learning Arabic using technology.

This study aims to analyze and describe the challenges faced by 4th semester female students of the Arabic Language Education Study Program of STIT Madani Yogyakarta in technology-based Arabic language learning. Specific objectives include identifying factors that become obstacles in learning, adaptation strategies carried out by female students, and the impact of these challenges on the effectiveness of Arabic language learning. This study also aims to provide recommendations that can be applied to improve the quality of technology-based Arabic language learning by considering the unique characteristics of female students.

This research is expected to make a theoretical contribution in developing the concept of technology-based Arabic language learning that is sensitive to gender and socio-cultural contexts. Practically, the results of this study can be a reference for educators, curriculum developers, and policy makers in designing Arabic language learning programs that are more effective and inclusive. The benefits of the research also include the development of learning models that can accommodate the diverse backgrounds and characteristics of female students in the context of technology-based Arabic language learning in Islamic religious universities.

Methods

This research is a descriptive qualitative research using a case study approach, as explained by Wina Sanjaya that a case study is a descriptive method to answer educational problems in depth with limited subjects according to the case studied (Satar et al., 2020; Shen, 2020). This study aims to describe the challenges of 4th semester Arabic Language Education students at STIT Madani Yogyakarta in technology-based learning. Data collection techniques include observation, interviews, and documentation, which were carried out for 30 days (Ilhami et al., 2024). Observation was conducted to directly observe the learning process, while in-depth interviews were conducted with lecturers and female students as the main data. Documentation studies were used to support the data that had been obtained. Data were analyzed thematically and tested for validity through triangulation of sources and methods.

Result and Discussion

a. Student Challenges in Technology-Based Arabic Language Learning

Based on the analysis of in-depth interviews with 4th semester female students of the Arabic Language Education Study Program of STIT Madani Yogyakarta, three main categories of challenges faced in technology-based Arabic language learning were found: technical challenges, psychological challenges, and socio-economic challenges. The findings reveal that female students face a complexity of challenges that interact with each other and affect the effectiveness of their learning.

b. Technical and Infrastructure Challenges

Technical challenges emerged as the most dominant obstacle faced by female students. Alya Najwa Salsabila expressed her experience of frustration: "Signal and error problems: Often interrupted (link error, bad signal), making it difficult to follow the online material. Declining writing skills (maharah kitabah): Due to over-reliance on technology, manual writing skills are not practiced." This statement shows that technical challenges not only impact on access to learning, but also on fundamental Arabic language skills. Fathima Shofiatin Nisa reinforced these findings by stating: "Network or internet signal interruptions. This happens often, especially when the weather is bad or in areas with weak signals. "Sheyla added the hardware dimension to the technical challenges: "If you use a slow cellphone or laptop, studying becomes uncomfortable. Sometimes the internet signal is also bad, especially when it is raining or in areas with poor signal."

This finding is in line with research (Al-Abdullatif & Alsubaie, 2022) which shows that female students in religious universities face more complex infrastructure challenges than students in general universities. This limited access to technology creates a significant digital divide in Arabic language learning, where female students with limited access to technology experience greater difficulties in mastering Arabic language skills.

The phenomenon of the digital divide in Arabic language learning in religious universities reflects broader structural problems in Indonesia's higher education system. The limited technological infrastructure experienced by female students not only impacts the technical aspects of learning, but also affects motivation and confidence in developing Arabic language skills. Research (Hafeez Alvi et al., 2021) revealed that students with limited access to technology tend to experience higher language anxiety, especially in speaking (maharah kalam) and listening (maharah istima') skills that require real-time interaction with digital media.

The impact of this digital divide is evident in the achievement of the four Arabic language skills (maharah arba'). In the aspect of maharah qira'ah (reading), students

with limited access to technology have difficulty accessing rich and varied Arabic digital reading sources. They only rely on conventional textbooks which are often limited in providing authentic and contemporary texts. In contrast, female students with adequate access to technology can utilize digital libraries, learning applications, and online platforms that provide a variety of Arabic text genres from various countries and periods.

The gap in maharah kitabah (writing) is also significant. Students with limited access to technology face obstacles in using word processors that support Arabic typography, grammar correction applications, and collaborative platforms for peer review. They still rely on handwriting which limits the ability to revise and share work. Meanwhile, female students with access to technology can utilize advanced features such as Arabic-specific spell checkers, grammar checkers, and document sharing platforms that enable collaborative learning and instant feedback from lecturers and peers.

In the context of maharah kalam (speaking), the digital divide creates a stark difference in the learning experience. Students with limited access to technology miss the opportunity to interact with native speakers through video conferencing platforms, use pronunciation trainer apps, or participate in virtual language exchanges. They only rely on speaking practice in class which is time-limited and does not provide sufficient exposure to the variety of Arabic dialects and registers. This condition is exacerbated by limited access to high-quality and up-to-date audio-visual materials.

The maharah istima' (listening) aspect experiences the most significant impact of the digital divide (Sirad & Choiruddin, 2025). Listening skills require intensive exposure to different types of audio input in Arabic, ranging from everyday conversations to academic lectures. Students with limited access to technology cannot take advantage of Arabic podcasts, Al-Jazeera news streaming, or learning apps that provide listening exercises with varying levels of difficulty. They rely on limited audio materials provided by the institution, which often do not keep up with the latest developments in Arabic pedagogy.

The digital divide also affects female students' ability to develop digital literacy in Arabic (Lathifah et al., 2025). In this digital era, the ability to read and write in Arabic is no longer limited to conventional texts, but also includes understanding social media, blogs, online forums, and other digital platforms that use Arabic. Students with limited access to technology do not have the opportunity to develop this ability, so they have difficulty in understanding informal registers, code-switching, and Arabic variations that appear in the digital context.

This problem is even more complex when it is related to the demands of a curriculum that increasingly integrates technology in Arabic language learning. Many religious universities have begun to adopt Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) approaches that require adequate access to technology. Students with limited access to technology cannot optimally participate in technology-based learning activities, so they experience a continuous academic disadvantage.

The psychological impact of this digital divide also needs serious attention. Students who experience limited access to technology often develop learned helplessness and lose motivation to learn Arabic. They feel left behind by their peers who have better access to technology, thus experiencing a decrease in self-efficacy in language learning. This condition can have a long-term impact on academic achievement and future career development.

To address this issue, a holistic approach involving various stakeholders is required. Religious universities need to develop a comprehensive strategy to reduce the digital divide, including the provision of adequate technology infrastructure, digital literacy training for female students, and the development of blended learning models that accommodate female students with varying levels of technology access. Collaboration with the government, donor agencies, and the private sector is also needed to ensure the sustainability of the program to improve access to technology in Arabic language learning in religious universities.

Kurnia Sari revealed the economic aspect of the technical challenges: "Limited quota or credit: When we have to use video call applications, we need a stable connection and enough quota. If you don't have it, you can't join the class."

This finding indicates that the technical challenges of female students are not only technical, but also related to socio-economic factors. This condition creates excessive cognitive load on female students, where they have to manage technological challenges while trying to understand complex Arabic language materials (Shen, 2020).

c. Psychological and Motivational Challenges

The psychological dimension shows unique complexity in the context of female college students. Fathima Shofiati Nisa explains: "Lack of attention while studying. Because of online learning, there is no direct control from the lecturer. Students become easily distracted, some even fall asleep or do not follow the lesson at all."

This finding reveals that technology-based learning creates challenges in terms of students' self-regulation and intrinsic motivation. Kurnia Sari reinforced this finding with the phrase: "Online learning can also make some students feel less 'excited' because the interaction is not as strong as face-to-face. Some feel sleepy, confused, or even do not understand the material because the lecturer only explains one way." This statement shows that female students experience engagement deficit in technology-based learning, which is different from Wijaya & Sari's research (2022) which found that male students are more adaptable to asynchronous learning. Female students showed a stronger preference for social interaction and immediate feedback in Arabic language learning.

Sheyla revealed a specific aspect of comprehension anxiety: "Sometimes the material delivered through the app feels less connected, especially in Arabic lessons. If we have a question, we can't directly ask the teacher like when learning face-to-face. So I often have to guess or even not understand at all." This finding indicates that female students experience foreign language anxiety which is exacerbated by limited interaction in technology-based learning. (Al-Abdullatif & Alsubaie, 2024) explained

that language anxiety in female students tends to be higher in the context of digital learning due to the reduced social presence and emotional support from peers.

This phenomenon can be explained through several interrelated theoretical perspectives. First, from the perspective of Bandura's social learning theory, foreign language learning requires a strong observational and imitative component, where female students can observe and imitate language behavior from peers and instructors. In the context of digital learning, the opportunity to make direct observations and get spontaneous feedback is very limited, so female students have difficulty in building language confidence. This limitation creates a negative cycle where lack of speaking practice increases anxiety, which in turn further reduces motivation to actively participate in learning.

Gender also plays a significant role in this context. Previous research shows that female students tend to be more sensitive to social judgment and need more validation from the learning environment. In digital settings, the absence of nonverbal cues such as facial expressions, body language, and eye contact makes it difficult for female students to read the audience's response to their language performance. This uncertainty triggers more intense evaluative anxiety, especially when students have to speak a foreign language through a digital platform that feels more impersonal and formal than face-to-face interactions.

The impact of technology on foreign language anxiety also needs to be understood from the perspective of cognitive load theory (Dewi & Wilany, 2023). Learning a foreign language through technology requires students to not only process linguistic content, but also master the technical aspects of the learning platform. This double cognitive load can drain working memory and reduce the capacity to focus on accurate and fluent language production. When students encounter technical difficulties or feel uncomfortable with digital interfaces, technology anxiety can interact with language anxiety and create multiple barriers to learning.

Low social presence in digital learning also contributes to increased anxiety (Anantyanda & Saragih, 2020). Social presence theory suggests that perceived low social presence can reduce learning satisfaction and increase feelings of isolation. Students who are used to collaborative learning and emotional support from peers have difficulty adapting when they have to learn in a more individualistic digital environment. The lack of informal interaction such as spontaneous discussions before or after class, as well as the loss of opportunities to share experiences and support each other, reinforces feelings of being alone in facing language learning challenges.

Furthermore, the asynchronous nature of digital communication can exacerbate language anxiety. In face-to-face interactions, female students can utilize communication strategies such as clarification requests, confirmation checks, and comprehension checks naturally to overcome communication barriers. However, in a digital context, especially in an asynchronous format, the opportunity for meaning negotiation is very limited. This causes students to feel more pressure to produce perfect speech on the first try, which increases performance anxiety.

The affective dimension of language learning cannot be ignored either. Krashen in the affective filter hypothesis emphasizes that high levels of anxiety can inhibit language acquisition by creating an affective filter that blocks language input. In the context of digital learning, this affective filter can be even stronger as students have difficulty building rapport with instructors and classmates. Without supportive interpersonal relationships, college students tend to focus more on negative evaluations and find it more difficult to develop positive attitudes towards language learning.

The implications of these findings are significant for the development of more effective technology-based language learning strategies. First, there needs to be a systematic effort to increase social presence in digital learning through the use of features that allow for more personalized and spontaneous interactions. Second, instructors need to develop competence in identifying and addressing manifestations of language anxiety in digital contexts. Third, learning design needs to consider

cognitive load and provide adequate scaffolding to help students gradually master both technological aspects and language content.

In addition, it is necessary to develop assessment instruments that are sensitive to language anxiety in the digital context, so that educators can carry out early detection and appropriate intervention. The integration of anxiety management strategies such as relaxation techniques, positive self-talk, and goal setting into the digital language learning curriculum is also an urgent need. Thus, technology-based language learning can be designed to not only be cognitively effective, but also support students' emotional and social well-being.

d. Socio-Economic Challenges

In-depth analysis reveals that the socio-economic challenges of female students create significant disparities in technology-based learning. Diverse family economic backgrounds affect their access to learning technology. This finding is in line with Nugroho & Putri's (2024) research which shows that female students from lower-middle economic families face multiple challenges in technology-based Arabic language learning.

Table 1.1 Categorization of Students' Challenges in Technology-Based Arabic Learning

Challenge Category	Subcategory	Frequency of Occurrence	Impact on Learning
Technical	Unstable internet connection	High	Disruption of learning process
Technical	Inadequate devices	Sedang	Difficulty accessing materials
Technical	Quota limitation	High	Unable to attend class
Psychological	Lack of motivation	High	Decreased participation
Psychological	Easily distracted	High	Suboptimal understanding of material
Psychological	Language anxiety	Moderate	Barriers to oral practice
Socio-Economics	Financial limitations	Moderate	Limited access to technology

Challenge Category	Subcategory	Frequency of Occurrence	Impact on Learning
Socio-Economics	Learning environment is not conducive	Moderate	Concentration impaired

e. Adaptation Strategies of College Students

College students show diverse adaptation skills in facing the challenges of technology-based learning. Alya Najwa Salsabila developed a systematic technical strategy: "Switch places, change provider cards, or use backup Wi-Fi. Save materials on Google Drive to use when connection problems occur."

This strategy shows that she developed proactive contingency planning to overcome technical challenges. Fathima Shofiatin Nisa applied a holistic approach: "Looking for a place with better signal, changing providers, motivating myself, and studying independently outside of class hours."

These findings indicate that she developed complex metacognitive strategies, combining technical solutions with self-regulation. Kurnia Sari demonstrated collaborative strategies: "I usually ask my friends to help me re-explain or watch recorded lessons if there are any. Sometimes I also look for additional material on YouTube or Google to understand topics that have not been understood." This strategy shows that female students utilize peer learning and resource diversification to overcome the limitations of technology-based learning.

Sheyla adopts an innovative approach by utilizing artificial intelligence: "I repeat the video again or look for additional explanations on YouTube or use AI such as ChatGPT or Perplexity to help explain in a way that is easier to understand." This finding shows that digital generation female students are able to integrate AI technology as a learning companion in learning Arabic. This strategy is in line with Chen & Liu's research (2023) which shows that female students tend to be more adaptive in using diverse learning technologies.

f. Learning Implications for College Students

The research findings reveal that college students have a positive perception of the benefits of technology in Arabic language learning, despite facing various challenges. Alya Najwa Salsabila stated: "Very helpful. Technology makes learning faster, varied, and not boring." Fathima Shofiatin Nisa added the accessibility aspect: "With technology, we can quickly access information, such as looking up the meaning of words or differences in meaning directly from the cellphone." Kurnia Sari emphasized learning efficiency: "Technology allows us to more quickly access materials, conduct discussions, and complete assignments efficiently".

Sheyla provides a balanced perspective: "With technology, I can also look for additional explanations, such as through YouTube or AI like ChatGPT. But still, sometimes there is material that is easier to understand if it is explained directly by the lecturer." This finding shows that female students have good technological pedagogical awareness, able to recognize the benefits and limitations of technology in learning Arabic. However, they also show a preference for blended learning that combines technology with direct interaction.

The pedagogical implication that arises from this finding is the need to develop a learning model that is responsive to the characteristics and needs of female students. Lecturers need to take on the role of facilitators who support students' technological adaptation, not just as material deliverers. This is in line with research (Nurcholis & Hidayatullah, 2019) which shows that lecturer support is crucial in the success of technology-based Arabic language learning for female students.

Students also provide concrete suggestions for learning improvement. Alya Najwa Salsabila suggested: "The material should be delivered by the lecturer, not just the students presenting. After the presentation there is a correction session by the lecturer. Create group discussions or creative activities such as role-play." Fathima Shofiatin Nisa emphasized infrastructure and training: "Develop Arabic learning applications that are easier to use. Improve the internet network. Hold special training for lecturers to teach more effectively using technology." This finding indicates that female students have mature pedagogical insight into their learning needs. They

realize the importance of balance between technology and human interaction in Arabic language learning. This shows that female students are not only passive recipients of technology, but active agents who are able to contribute to the development of technology-based learning.

Conclusion

This study shows that 4th semester Arabic language education students of STIT Madani Yogyakarta face multidimensional challenges in technology-based learning which include technical (limited internet infrastructure and devices), psychological (lack of motivation and easily distracted), and socio-economic (financial limitations and non-conducive learning environment) aspects. Nevertheless, female students show good adaptability through independent strategies such as utilization of digital platforms, AI technology, and collaboration with peers to overcome learning barriers (Haniefia & Samsudin, 2023; Zam Zam Hariro et al., 2024). These findings indicate the need for implementation of hybrid learning models that integrate the power of technology with in-person interactions, improvement of lecturers' TPACK competencies, and curriculum development that is responsive to the specific characteristics and needs of female students. The main recommendations include improving technological infrastructure, academic digital literacy training for female students, and developing gender-sensitive learning strategies to optimize the mastery of the four Arabic language skills (maharah arba') in the digital era, so that Arabic language learning can run inclusively, effectively, and sustainably in accordance with the demands of the times.

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