Examining the Influence of Digital Learning on Women's Education in Afghanistan: An In-Depth Analysis of Women Online University

Tamanna QURAISHI\textsuperscript{a*}, Ayeshan HASHIMI\textsuperscript{a}, Susan YASINI\textsuperscript{a}, Parisa BARAK\textsuperscript{a}, Zahra AMANI\textsuperscript{a}
Sara Afif SAHEL\textsuperscript{b}

\textsuperscript{a}Medical Faculty, Women Online University, Afghanistan
\textsuperscript{b}Stomatology Faculty, Women Online University, Afghanistan

*Corresponding author: Tamannaquraishi259@gmail.com

Abstract
The research aims to address the pressing need for innovative approaches to overcome barriers to education faced by Afghan women, particularly in regions with limited access to traditional learning resources. The study employs a systematic research method, beginning with a thorough review of the literature to establish the context and theoretical framework surrounding e-learning in Afghanistan. It explores the transformative potential of e-learning in empowering Afghan women, while also examining the challenges hindering its implementation. A stratified random sampling technique was utilized to select a representative sample of 150 female students from the Women Online University in Afghanistan. This sample size was deemed sufficient to obtain comprehensive insights into the perspectives and experiences of female students regarding e-learning. Data was collected through structured surveys, designed to assess various aspects of e-learning effectiveness, challenges, and empowerment. Quantitative data analysis techniques, including descriptive statistics and frequency distributions, were employed to analyze the survey responses. The findings reveal insights into the demographic distribution of female students at Women Online University, the distribution of online platforms used for e-learning, implementation, and perceptions of empowerment. Through a rigorous analysis of the data, this study aims to provide valuable insights into the current landscape of e-learning for female education in Afghanistan. The results contribute to a deeper understanding of the opportunities and challenges associated with e-learning initiatives, while also offering recommendations for policymakers, educators, and stakeholders to enhance the effectiveness and accessibility of e-learning for Afghan women.

Keywords: E-learning, women's education, Afghanistan, empowerment, challenges

Acknowledgment
I would like to express my sincere gratitude to Mr. Musawer Hakimi for his invaluable support and guidance throughout this research endeavor. His expertise and insights have greatly enriched the quality of this study. I am deeply thankful for his unwavering commitment and
encouragement, which have been instrumental in shaping the direction of this work. Additionally, I extend my appreciation to Mr. Hakimi for his generous provision of resources and assistance, which have contributed significantly to the success of this project. His dedication to advancing knowledge and promoting academic excellence serves as an inspiration to all those fortunate enough to collaborate with him. Once again, thank you, Mr. Musawer Hakimi, for your invaluable contributions and unwavering support.

For citation:

**Introduction**

In recent years, electronic learning (e-learning) has emerged as a transformative tool in the realm of education, particularly in regions facing challenges of accessibility and gender disparity such as Afghanistan. This study embarks on a comprehensive exploration of the influence of e-learning on female education in Afghanistan, aiming to shed light on its implications, challenges, and potential for fostering inclusive and equitable educational opportunities for women. As Afghanistan grapples with socio-cultural barriers to women's education, the integration of e-learning platforms has become increasingly indispensable in bridging the gender gap and empowering women through knowledge acquisition and skill development.

The impact of e-learning on female education in Afghanistan is a multifaceted phenomenon that warrants thorough investigation from diverse scholarly perspectives. Research by Hakimi, M., et al. (2024) provides valuable insights into the evaluation of e-learning's impact on girls' education, drawing from a case study conducted at Samangan University. This empirical study offers empirical evidence and analytical frameworks to assess the effectiveness of e-learning initiatives in enhancing educational outcomes for female students in Afghanistan.

Furthermore, the study by Hakimi, N., et al. (2024) delves into the challenges and opportunities of e-learning for women's education in developing countries, offering nuanced insights gleaned from Women Online University (WOU). By examining the experiences and perceptions of female learners enrolled in e-learning programs, this research contributes to a deeper understanding of the contextual factors shaping the implementation and efficacy of e-learning initiatives in Afghanistan.

Alariqi et al. (2019) explore the factors influencing e-learning effectiveness in higher learning institutions in Afghanistan, providing critical perspectives on the socio-economic, infrastructural, and pedagogical dimensions of e-learning adoption. Additionally, Gama et al. (2022) offer a comprehensive literature review on electronic learning benefits and challenges in Malawi's higher education, which can inform comparative analyses and best practices for e-learning integration in Afghanistan.

Moreover, Shams et al. (2022) examine e-learning adoption in higher education institutions during the COVID-19 pandemic, shedding light on the rapid digital transformation and its implications for female education in Afghanistan. The accelerated uptake of e-learning technologies amidst crises underscores the resilience and adaptability of educational systems, particularly in facilitating remote learning opportunities for women in Afghanistan.

In conclusion, this research aims to evaluate the effectiveness of e-learning for female education in Afghanistan, focusing on access, engagement, and academic performance. It
identifies challenges impeding e-learning implementation for Afghan women, including limited internet connectivity, cultural barriers, and inadequate infrastructure. Proposed strategies for improvement include enhancing internet access, providing digital literacy training, and promoting cultural acceptance of e-learning. Additionally, the study explores how e-learning empowers women through knowledge acquisition, skill development, and socio-economic advancement. By offering access to online education, e-learning enables women to acquire valuable skills, pursue higher education, and enhance employment opportunities. Ultimately, this research seeks to contribute to the personal growth, economic independence, and societal development of Afghan women.

**Problem statements**

The problem statement of this research revolves around the challenges facing e-learning implementation for female education in Afghanistan. Despite the potential benefits of e-learning, Afghan women encounter obstacles such as limited internet connectivity, cultural barriers, and inadequate infrastructure. These challenges hinder their access to online education, impede their engagement with e-learning platforms, and affect their academic performance. Additionally, the prevailing societal norms and cultural attitudes toward women's education further exacerbate the barriers to e-learning adoption. Consequently, there is a pressing need to address these challenges and develop strategies to enhance e-learning opportunities for Afghan women. By overcoming these obstacles, it is possible to empower women through education, foster their socio-economic advancement, and contribute to the overall development of Afghan society.

**Research questions**

- How does e-learning impact access, engagement, and academic performance in female education in Afghanistan?
- What are the main challenges hindering the implementation of e-learning for women in Afghanistan, and what strategies can be proposed to address them?
- In what ways does e-learning empower women in Afghanistan in terms of knowledge acquisition, skill development, and socio-economic advancement?

**Literature Review**

Educating girls in Afghanistan remains a complex issue. Traditional restrictions, limited access to physical schools, and cultural norms create significant barriers. However, recent advancements in electronic learning (e-learning) offer a promising avenue for progress. This review explores the potential of e-learning to improve female education in Afghanistan, examining both the opportunities and challenges associated with its implementation.

Studies by Hakimi et al. (2024a, 2024d) highlight the transformative power of Information and Communication Technologies (ICT) in empowering Afghan women. E-learning platforms, like the Women's Online University, provide access to education irrespective of location or traditional restrictions (This is particularly relevant for girls in rural areas or those facing cultural limitations on attending physical schools (Sofizada, 2022). E-learning transcends geographical boundaries, allowing girls in remote locations to connect with educators and access educational resources previously unavailable.

Furthermore, e-learning offers flexibility in learning pace and style, potentially catering to diverse learning needs (Gama et al., 2022). Unlike traditional classrooms with a fixed schedule, e-learning platforms allow students to learn at their own pace, revisit materials for clarification, and tailor their learning experience to their preferred approach. This flexibility can be particularly
beneficial for girls who may have additional responsibilities at home or require more time to grasp certain concepts.

Quraishi et al. (2024) emphasize the importance of integrating mobile learning technologies. With smartphones being more prevalent than computers in Afghanistan, mobile learning allows for increased accessibility of educational content. This can be particularly empowering for girls who may have limited access to traditional learning resources at home. Imagine a girl in a rural village being able to access educational videos or interactive learning modules on her smartphone – a possibility that e-learning offers.

Despite the potential benefits, significant challenges hinder the widespread adoption of e-learning in Afghanistan. Hakimi et al. (2024c) emphasize the need for robust infrastructure, including reliable internet connectivity and access to devices. Studies by Alariqi et al. (2019) and Amiri et al. (2024) highlight the limitations of current e-learning platforms in Afghanistan. These platforms may lack proper functionality or user-friendliness, hindering the overall learning experience. Imagine a girl frustrated by a clunky e-learning platform, struggling to navigate and access the educational content she needs. Addressing these shortcomings is crucial for successful e-learning implementation.

Furthermore, teacher training is essential for the successful implementation of e-learning (Hakimi et al., 2024a). Teachers need to be equipped with the necessary skills to develop and deliver engaging online courses, effectively utilize e-learning platforms, and provide appropriate support to students in a virtual environment. This requires investment in teacher training programs that focus on the specific needs of e-learning pedagogy.

Digital literacy skills are also crucial for both students and teachers to navigate online learning environments effectively (Quraishi et al., 2024). Many girls in Afghanistan may lack basic computer skills or experience using online learning platforms. Initiatives to improve digital literacy among girls and women are essential to bridge the gap and ensure their successful participation in e-learning programs.

Social barriers also persist, posing significant challenges. Gender discrimination can restrict girls’ access to technology or limit their participation in online learning due to cultural norms (Hakimi et al., 2024d). Asghari and Subriadi (2021) highlight challenges faced by female students at Kabul universities during the COVID-19 pandemic, where cultural restrictions limited their virtual learning experiences. For e-learning to be truly transformative for girls’ education, it must be implemented with a nuanced understanding of the socio-cultural context of Afghanistan. E-learning has the potential to revolutionize female education in Afghanistan by providing increased access, flexibility, and potentially a more engaging learning experience. However, overcoming limitations in infrastructure, teacher training, digital literacy, and social barriers is crucial. Further research is needed to explore effective e-learning models that consider the specific socio-cultural context of Afghanistan.

Methodology

Population:

The population for this study consists of female students enrolled at the Women Online University in Afghanistan. Women Online University caters to a diverse range of female students from various backgrounds and regions across Afghanistan.

Sample Size:

A sample size of 150 female students was selected from the population to participate in this study. This sample size was determined to be sufficient to obtain a representative sample of the target population and ensure statistical validity in the analysis of the research objectives.
**Sampling Technique:**

A stratified random sampling technique was employed to ensure a proportional representation of female students across different faculties and age groups within Women Online University. Stratification was based on faculty affiliation (Medical, Pharmacy, Computer Science, Economics, and Education) and age groups (20-25 years old and 25-30 years old).

**Data Collection:** Data was collected through structured surveys administered to the selected sample of female students. The survey instrument included multiple-choice questions and Likert scale items designed to assess various aspects of e-learning effectiveness, challenges, and empowerment among women in Afghanistan.

**Data Analysis:**

Quantitative data obtained from the surveys were analyzed using statistical techniques, including descriptive statistics and frequency distributions. The analysis focused on identifying patterns, trends, and associations related to the research objectives, such as the effectiveness of e-learning, challenges in implementation, and perceptions of empowerment.

**Ethical Considerations:**

Ethical considerations were carefully addressed throughout the research process. Informed consent was obtained from all participants before they participated in the study, ensuring voluntary participation and confidentiality of responses. Additionally, ethical guidelines and standards set forth by institutional review boards and relevant professional organizations were adhered to in the conduct of this research.

**Results and Discussion**

In the results section, the findings demonstrate the trends and patterns observed across the surveyed responses. These insights provide valuable information for understanding the impact and challenges of e-learning implementation in Afghanistan.

![Figure 1. Demographic distribution of female students at Women Online University by faculty and age group](image-url)
The demographic table illustrates a sample of 150 female students from Women Online University across various faculties and age groups. It reveals a distribution among faculties, with the highest representation in Medical, Pharmacy, and Computer Science faculties, each comprising 30 students. The Economics and Education faculties have 20 students each. Additionally, it delineates the age distribution, with 100 students falling between the ages of 20-25 and 50 students between 25-30 years old. Overall, the table highlights the diverse composition of female students at Women Online University across faculties and age groups.

![Figure 2. Distribution of online platforms used by female students](image)

The frequency Table illustrates the distribution of online platforms utilized by 150 female students from Women Online University across different faculties. Zoom Meeting emerged as the most preferred platform, with 40 respondents opting for this mode of communication. Telegram and WhatsApp followed closely, with 30 and 25 respondents, respectively. Google Meet was selected by 20 respondents, while both Moodle and Google Classroom were the least utilized, each garnering 20 and 15 responses, respectively. This analysis indicates a varied preference among students for online communication platforms, with Zoom Meeting being the most widely favored option.

![Figure 3. Challenges in E-learning implementation for women in Afghanistan](image)

Figure 3 presents respondents' perspectives on the factors crucial for determining the effectiveness of e-learning for female education in Afghanistan, based on 150 responses. The majority of respondents (140) identified all of the provided factors (internet connectivity, cultural
barriers, and academic performance) as crucial for determining effectiveness. Additionally, significant proportions of respondents acknowledged the importance of internet connectivity (130) and cultural barriers (120). Academic performance was also considered essential by a substantial number of respondents (110). However, a small minority (10) indicated that none of the provided factors were crucial for determining effectiveness. This data underscores the multifaceted nature of e-learning effectiveness, highlighting the significance of addressing various factors to enhance its impact on female education in Afghanistan.

Figure 4. Challenges and strategies for improving e-learning implementation for women in Afghanistan

The frequency in Figure 4 illustrates respondents' perceptions regarding the engagement level of female students in e-learning platforms in Afghanistan, based on 150 responses. The majority of respondents (60) indicated a moderate level of engagement, followed by 35 respondents who perceived it to be low. A considerable portion (30) rated the engagement level as high, while 15 respondents described it as very low. Only a minority of respondents (10) believed the engagement level to be very high. This data suggests that while a significant portion of respondents perceive moderate engagement, there is still room for improvement to enhance the overall engagement of female students in e-learning platforms in Afghanistan.

Figure 5. Perceptions of E-Learning empowerment for women in Afghanistan
Figure 5 presents respondents' perspectives on the impact of limited internet connectivity on e-learning implementation for women in Afghanistan. Among the 150 responses, the highest frequency (50) indicated that limited internet connectivity significantly affects e-learning implementation. Following closely, 40 respondents considered it to have a moderate impact, while 30 respondents perceived it to be extremely influential. A notable portion of respondents (20) viewed the impact as slight, and only 10 respondents believed it had no effect at all. This data underscores the substantial concern regarding the role of internet connectivity in hindering e-learning initiatives for women in Afghanistan, highlighting the need for improved infrastructure and accessibility measures.

Figure 6 illustrates respondents' perceptions regarding the impact of providing digital literacy training on overcoming challenges in e-learning implementation for women in Afghanistan. Among the 150 responses, the majority (60) agreed that digital literacy training can help address these challenges, while 30 respondents strongly agreed. Conversely, 30 respondents disagreed, 20 of whom strongly disagreed, and 30 remained neutral on the issue. This suggests a significant acknowledgment of the potential of digital literacy training in mitigating obstacles to e-learning implementation for women in Afghanistan.

Figure 7. Attitudes towards the role of digital literacy training in overcoming e-learning challenges for women in Afghanistan
Based on the data presented in Figure 7, it is evident that a significant portion of participants (60 individuals) agreed that providing digital literacy training can help overcome challenges in e-learning implementation for women in Afghanistan. However, a considerable number (30 participants) expressed strong agreement with this notion, while a smaller proportion (20 participants) disagreed, and only a minority (10 participants) strongly disagreed. This analysis highlights a consensus among respondents regarding the importance of digital literacy training in addressing e-learning challenges for women in Afghanistan, with a notable emphasis on agreement and strong agreement. Consequently, it underscores the potential effectiveness of such training initiatives in improving e-learning outcomes for women in the country.

![Figure 8](image)

**Figure 8.** Perceived role of e-learning in skill development enhancement among women in Afghanistan

Upon analyzing of responses in Figure 8, it is evident that the majority of participants perceive e-learning to have a high or very high role in enhancing the skill development of women in Afghanistan. Specifically, 60 respondents rated the role of e-learning as high, while another 35 respondents rated it as very high. Conversely, a smaller number of participants rated it as very low or low, with only 5 and 15 respondents, respectively, holding these views. This suggests a generally positive perception of the efficacy of e-learning in skill development among women in Afghanistan. The figure presenting this analysis could be aptly named "Perceived Role of E-Learning in Skill Development Enhancement among Women in Afghanistan."

**Discussion**

This analysis examines the potential of e-learning to address the educational challenges faced by girls in Afghanistan. Studies by Hakimi et al. (2024a) and Sofizada (2022) highlight how e-learning platforms like the Women's Online University can empower girls and contribute to their socio-economic advancement by overcoming geographical limitations and providing access to education in remote areas. Additionally, Gama et al. (2022) emphasize the flexibility of e-learning, which caters to diverse learning needs and accommodates girls with varying learning paces or those who hold additional responsibilities. Furthermore, Quraishi et al. (2024) advocate for the integration of mobile learning technologies, a crucial factor for enhancing accessibility in regions where smartphones are more common than computers.

However, significant challenges hinder the full potential of e-learning. Infrastructure limitations, including unreliable internet connectivity and a lack of adequate devices, pose a major barrier to widespread adoption, as highlighted by Hakimi et al. (2024c). Additionally, the usability of current e-learning platforms often falls short, negatively impacting the learning experience as
identified by Alariqi et al. (2019) and Amiri et al. (2024). Addressing these shortcomings requires substantial investment in infrastructure development and user-friendly platform design.

Teacher training emerges as another critical aspect. Studies by Hakimi et al. (2024a) emphasize the need for educators to be equipped with the necessary skills to facilitate effective online learning environments. Furthermore, digital literacy is essential for both students and teachers to navigate these environments successfully (Quraishi et al., 2024). Targeted initiatives aimed at improving digital literacy are vital to ensure successful participation for all stakeholders. Social barriers, including gender discrimination and cultural norms, present substantial obstacles, as identified by Hakimi et al. (2024d) and Asghari & Subriadi (2021). Overcoming these challenges necessitates a nuanced understanding of the socio-cultural context and the development of targeted interventions.

The results of further research highlight the multifaceted nature of e-learning effectiveness. While the importance of factors like internet connectivity and cultural barriers is widely recognized, there is significant variation in individual perceptions. Engagement levels among female students in e-learning platforms are moderate on average, suggesting room for improvement. Limited internet connectivity remains a major concern impacting e-learning implementation. However, there is a consensus on the potential of digital literacy training to mitigate e-learning challenges. Finally, the research suggests that e-learning is perceived to play a significant role in enhancing skill development among women in Afghanistan.

Overall, this discussion underscores the need for a comprehensive approach to implementing e-learning in Afghanistan. While e-learning offers promising opportunities, addressing infrastructure limitations, providing adequate training, and navigating socio-cultural barriers are crucial for maximizing its potential in empowering Afghan girls through education.

Conclusion

In conclusion, the potential of e-learning to revolutionize female education in Afghanistan is evident, offering opportunities for empowerment and socio-economic advancement. The literature review and results highlight the transformative power of e-learning platforms in providing access to education, overcoming geographical barriers, and catering to diverse learning needs. Integration of mobile learning technologies further enhances accessibility, particularly significant in regions where smartphones are prevalent.

However, significant challenges hinder the widespread adoption and effectiveness of e-learning in Afghanistan. Infrastructure limitations, including unreliable internet connectivity and inadequate devices, pose substantial obstacles. Additionally, usability issues with current e-learning platforms and the need for teacher training underscore the complexity of implementing e-learning initiatives successfully.

Addressing these challenges requires a multi-faceted approach. Investment in infrastructure and platform development is crucial to ensure reliable internet connectivity and user-friendly interfaces. Furthermore, comprehensive teacher training programs are essential to equip educators with the necessary skills for effective online instruction. Initiatives focused on improving digital literacy among both students and teachers are vital to bridge the digital divide and ensure the successful participation of all stakeholders.

Moreover, navigating socio-cultural barriers, including gender discrimination and cultural norms, requires targeted interventions and a nuanced understanding of the Afghan context. By addressing these challenges and leveraging the potential of e-learning, Afghanistan can unlock new opportunities for female education and empower women to realize their full potential.

In conclusion, while challenges persist, the promise of e-learning in Afghanistan is significant. With concerted efforts and strategic investments, e-learning can play a pivotal role in
advancing female education, fostering socio-economic development, and driving positive change in Afghan society.

**Recommendation**

Based on the findings and challenges identified, it is recommended that stakeholders prioritize the following actions to enhance the effectiveness of e-learning for female education in Afghanistan. Firstly, invest in improving infrastructure, including reliable internet connectivity and access to devices. Secondly, enhance the usability and functionality of e-learning platforms to ensure a seamless learning experience. Thirdly, implement comprehensive teacher training programs to equip educators with the skills needed for online instruction. Additionally, initiatives to promote digital literacy among students and teachers should be prioritized to bridge the digital divide. Finally, addresses sociocultural barriers by fostering a supportive environment that encourages female participation in e-learning initiatives. By implementing these recommendations, stakeholders can overcome challenges and maximize the potential of e-learning to empower female education in Afghanistan.

**Conflicts of Interest**

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

**References:**


