



Bridging the Language Gap: Women's Empowerment through Technology and English Education

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Abstract:

Bridging the gap between technology access and language education is crucial for empowering women in today's digital era. This study explores how digital technology and English education collectively enhance women's academic and career opportunities. The purpose of the research is to examine the role of digital tools and English language skills in fostering confidence, continuous learning, and empowerment among female university students. A quantitative approach was used, surveying 100 female students from Vision Online University across various faculties, including Nursing, Computer Science, Economics, and Psychology. Data were collected through a structured questionnaire with Likert-scale questions assessing perceptions of technology use and English learning. Results indicate that the majority of participants view digital technology as instrumental in accessing educational opportunities and continuing learning outside the classroom. Additionally, English proficiency was strongly linked to increased confidence and career empowerment. Mobile learning apps emerged as the most frequently used technology for language learning. The study concludes that integrating digital tools and English education significantly contributes to women's empowerment by enhancing their skills, confidence, and access to opportunities. These findings highlight the need for educational policies to focus on inclusive digital literacy and language programs to promote gender equality and sustainable development.

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Women's empowerment, digital technology, English education, digital literacy, higher education.

INTRODUCTION

In the 21st century, technology and English language education have emerged as powerful tools for women's empowerment, especially in developing regions where gender disparities remain prevalent. Access to digital tools and proficiency in English not only enable women to connect globally but also provide critical pathways to education, employment, and social mobility (Aslam, Abidi, & Rizvi, 2024; Mackey & Petrucka, 2021). These twin forces, technology and language, serve as bridges across traditional barriers, offering women the means to challenge cultural, economic, and social constraints.

The digital gender divide continues to hinder women's full participation in society. Limited internet access, digital literacy, and socio-cultural restrictions often restrict

women's engagement with technology (Bara & Singh, 2025). However, studies show that when women are equipped with digital skills and language proficiency, they gain greater autonomy and improved access to education and economic opportunities (Chandra, 2022; Niroo & Crompton, 2022). In contexts such as Afghanistan and Nigeria, where women face systemic challenges, digital platforms and English education have proven transformative (Hakimi et al., 2024; Ukaigwe et al., 2025).

English, as a global lingua franca, plays a critical role in expanding women's access to information, global networks, and employment (Haghighi, 2014; Qamariah, 2024). English language proficiency enhances women's ability to participate in online education, access international job markets, and engage with advocacy platforms (Dewi, Artini, & Wahyuni, 2024; Varela, 2025). Moreover, English teaching itself can be a platform for raising awareness about gender rights and promoting empowerment narratives (Qamariah, 2024).

The intersection of mobile learning (m-learning) and gender empowerment is also notable. Mobile devices, when accessible, allow women to overcome mobility restrictions and continue learning regardless of location (Carm & Øgrim, 2013; Dodson, Sterling, & Bennett, 2013). Programs integrating digital literacy with English education have demonstrated success in empowering women across different cultural contexts (Khaliqi et al., 2024; Quraishi et al., 2024). Furthermore, initiatives that focus on community-based and culturally sensitive ICT approaches have shown promise in reshaping traditional gender roles (Nariman Zadeh, 2024).

Ultimately, leveraging both technology and English education provides a synergistic strategy for addressing gender inequality. As global efforts toward achieving Sustainable Development Goals (SDGs) continue, ensuring equitable access to these tools is essential for sustainable and inclusive development (Aslam et al., 2024).

This study aims to explore how digital technology and English language education together contribute to women's empowerment, particularly in marginalized and developing contexts. It seeks to examine the extent to which access to technology enhances women's educational and professional opportunities. Additionally, it investigates how English language proficiency supports women's social mobility, global communication, and participation in economic development. A core focus is placed on evaluating the effectiveness of integrating digital literacy with English education as a strategy to overcome gender-based barriers. The study also aims to identify the key challenges and opportunities that women encounter while engaging with these tools.

By addressing these objectives, the research contributes to a deeper understanding of how language and technology intersect to reshape gender dynamics, bridge inequality gaps, and promote sustainable development. The findings are expected to inform educators, policymakers, and development practitioners seeking to design more inclusive, accessible, and empowering educational programs for women.

RESEARCH METHODS

This study employed a quantitative research design using a structured survey questionnaire to examine the impact of digital technology and English education on women's empowerment. The design allows for collecting numerical data to analyze patterns in technology use, language learning, and perceived empowerment among female university students.

Participants and Sampling

The sample consisted of 100 female students enrolled at Vision Online University. Participants were drawn from four faculties: Nursing (50 students), Computer Science (50 students), Economics (20 students), and Psychology (20 students). The age range of respondents was 20 to 26 years. A purposive sampling technique was employed to select participants who are actively engaged in technology-based English learning.

Data Collection

Data were collected using a self-administered online questionnaire distributed via university communication platforms. The questionnaire comprised six multiple-choice questions with a 5-point Likert scale to measure attitudes and perceptions toward digital technology and English education. Additionally, demographic information was collected.

Data Analysis

Descriptive statistics, including frequencies and percentages, were used to analyze demographic data and responses to Likert-scale questions. The data were presented in tables and summarized using narrative descriptions to interpret trends related to technology use and empowerment through English learning.

RESULTS

This section presents the findings from the survey conducted among 100 female students at Vision Online University. The responses provide insights into how digital technology and English language education influence their learning experiences, confidence, and sense of empowerment. The data were analyzed using descriptive statistics to highlight key trends related to technology usage, language proficiency, and their perceived impact on academic and career development. The following subsections summarize the participants’ demographic characteristics and their responses to the survey questions.

Table 1: Demographic Profile of Respondents

Variable	Category	Frequency (n)	Percentage (%)
University	Vision Online University	100	100%
Faculty	Nursing	50	50%
	Computer Science	50	50%
	Economics	20	20%
	Psychology	20	20%
Age Group	20–22 years	56	56%
	23–24 years	28	28%
	25–26 years	16	16%
Gender	Female	100	100%

Based on the demographic table, the study sample consisted of 100 female students from Vision Online University. The participants were evenly distributed between the Nursing and Computer Science faculties, with 50 students each. Additionally, 20 students were from the Economics faculty, and 20 from Psychology, with some possibly enrolled in multiple programs. The age distribution showed that the majority (56%) were between 20–22 years old, followed by 28% aged 23–24, and 16% aged 25–26. All respondents identified as female, reflecting the study's focus on women's empowerment through technology and English education in higher education settings.

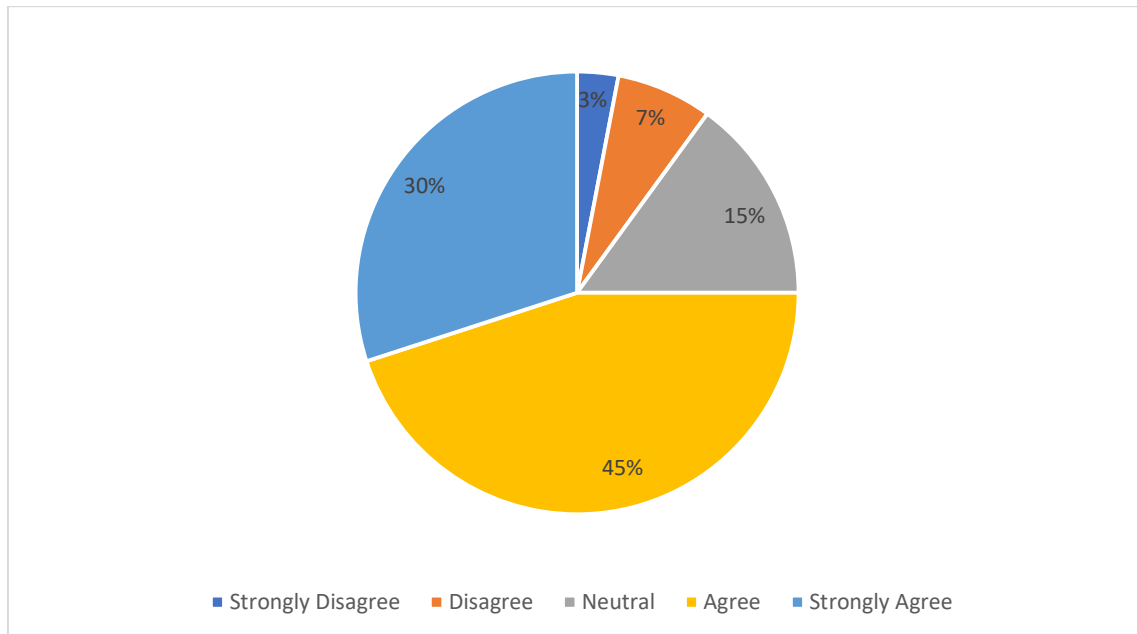


Figure 1: Responses on the Impact of Digital Technology on Access to Educational Opportunities

The responses to the statement “Using digital technology has improved my ability to access educational opportunities” reveal a generally positive perception among the 100 female students surveyed. A combined 75% of respondents agreed or strongly agreed, indicating that digital technology plays a significant role in enhancing their educational access. Forty-five percent agreed, and an additional 30% strongly agreed with the statement. This suggests that digital tools such as online learning platforms, mobile apps, and educational resources contribute substantially to expanding learning opportunities beyond traditional settings. Fifteen percent of participants remained neutral, possibly reflecting uncertainty or varied experiences with technology’s benefits. A smaller portion—10%—disagreed or strongly disagreed, which may indicate barriers such as limited digital literacy, lack of access, or infrastructural challenges. Overall, these findings highlight the importance of improving digital access and literacy as critical steps toward empowering women through education in technology-driven environments.

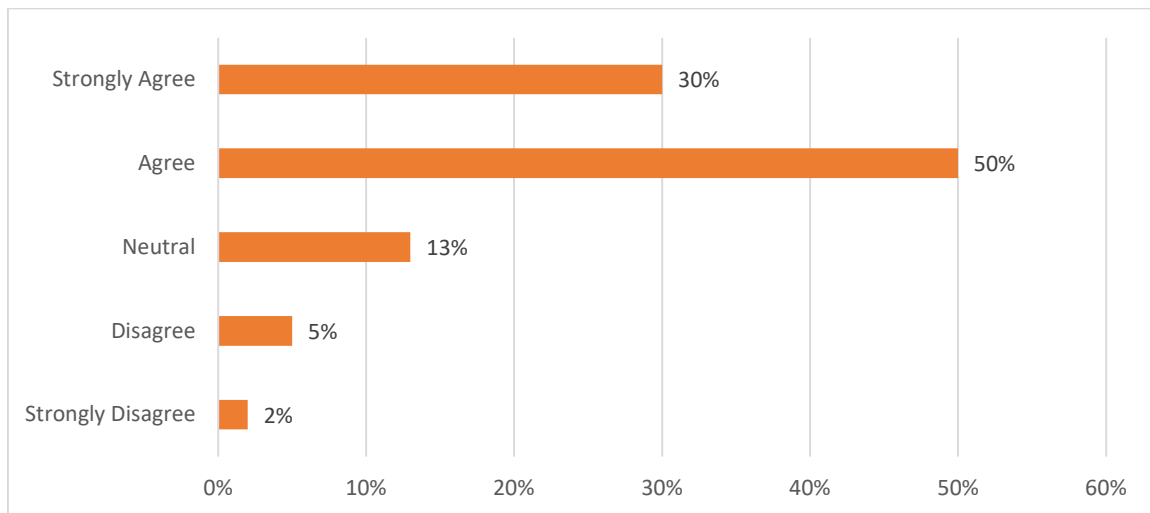


Figure 2: Responses on the Impact of Learning English on Confidence in Academic and Social Discussions

The data on how learning English has affected students' confidence in academic and social discussions shows a largely positive trend. A total of 80% of the 100 female respondents either agreed (50%) or strongly agreed (30%) that learning English has boosted their confidence. This reflects the significant role that English proficiency plays in enhancing women's ability to engage more effectively in both academic environments and social interactions. Thirteen percent of respondents remained neutral, which might suggest varying levels of confidence depending on personal experiences or proficiency. Meanwhile, a small minority of 7% disagreed or strongly disagreed, possibly indicating challenges such as language anxiety or limited practical usage opportunities. Overall, the findings emphasize that English language education is a key factor in empowering women by fostering self-assurance in communication, which is vital for academic success and social participation.

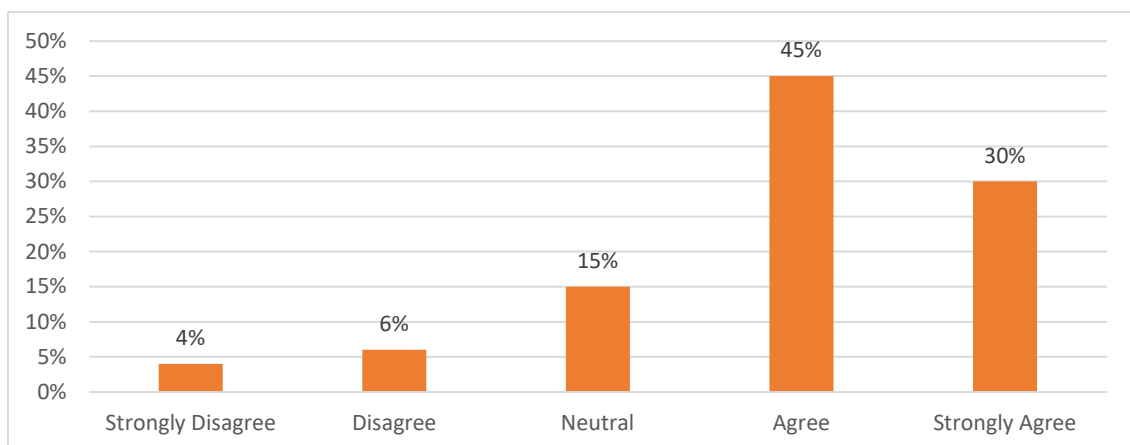


Figure 3: Responses on Feeling Empowered to Pursue Career Goals Due to English Language Skills

The responses indicate a strong positive relationship between English language skills and women's sense of empowerment in pursuing career goals. Among the 100 female students surveyed, 75% agreed or strongly agreed that their English proficiency

has empowered them professionally. Specifically, 45% agreed and 30% strongly agreed, suggesting that English skills provide significant confidence and opportunities for career advancement. Fifteen percent of respondents remained neutral, possibly reflecting uncertainty about the direct impact of English on their careers or varying professional aspirations. A smaller segment, 10%, disagreed or strongly disagreed, which may reflect challenges such as insufficient language mastery or limited career opportunities in their fields. Overall, the data highlights the importance of English language education as a vital tool in enhancing women’s employability and career development, reinforcing its role in broader empowerment efforts.

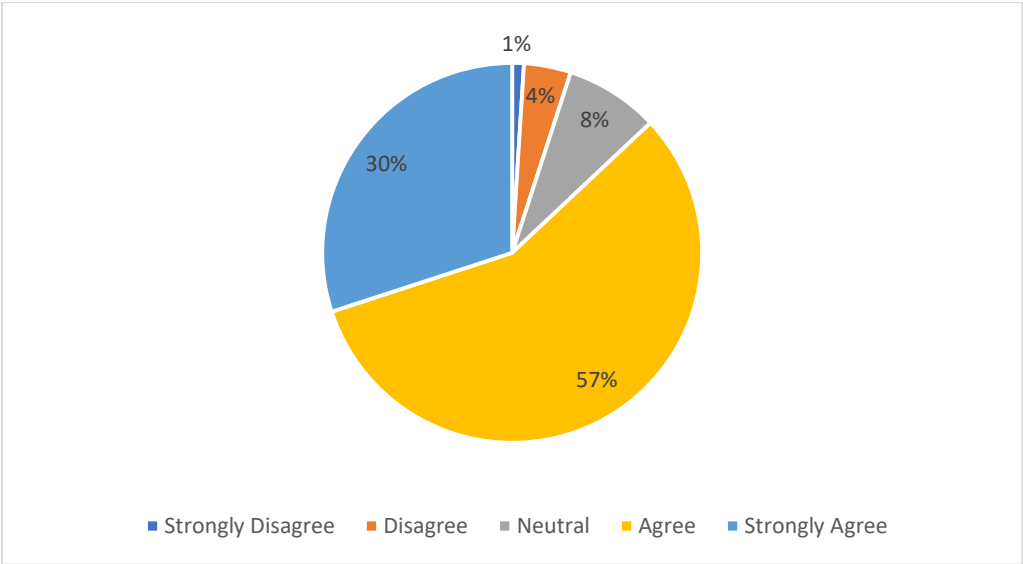


Figure 4: Responses on the Role of Digital Tools in Facilitating Learning Outside the Classroom

The responses highlight the significant role of digital tools in enabling learning beyond the classroom for women students. Out of 100 respondents, 87% agreed or strongly agreed that access to devices like smartphones, laptops, or tablets has supported their continuous education. The majority (57%) agreed, and a substantial 30% strongly agreed with the statement, indicating widespread recognition of the benefits of technology for flexible learning. A smaller portion (8%) remained neutral, possibly reflecting varied levels of access or personal study habits. Only 5% of respondents disagreed or strongly disagreed, suggesting that a few students may face barriers such as limited device availability, connectivity issues, or lack of digital skills. Overall, the findings affirm that providing women with digital tools is crucial for fostering autonomous learning and empowering them academically outside formal educational settings.

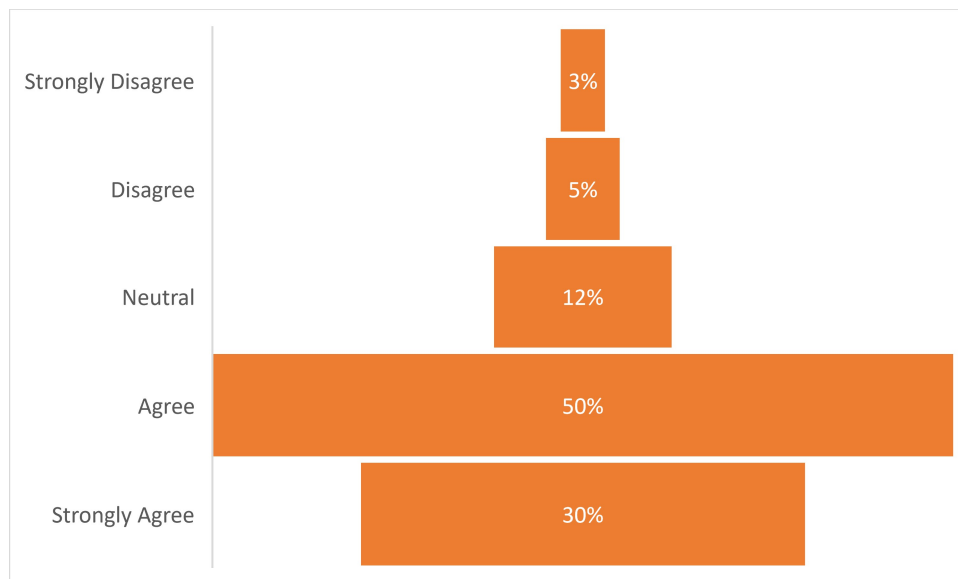


Figure 5: Responses on the Effectiveness of Online Platforms and Apps in Improving English Skills

The responses indicate a positive perception of online platforms and applications as effective tools for improving English skills among the surveyed female students. A combined 80% of participants agreed or strongly agreed with the statement, with 50% agreeing and 30% strongly agreeing, reflecting a strong endorsement of digital learning resources. This suggests that apps and online platforms, such as language learning applications and educational websites, are valuable aids in language acquisition, offering flexibility and accessibility. Twelve percent of respondents remained neutral, which may indicate mixed experiences or unfamiliarity with specific tools. Only 8% expressed disagreement, which could be due to challenges such as technical difficulties, lack of personalized support, or preference for traditional learning methods. Overall, these findings emphasize the growing importance of integrating digital tools in language education to empower women in enhancing their English proficiency.

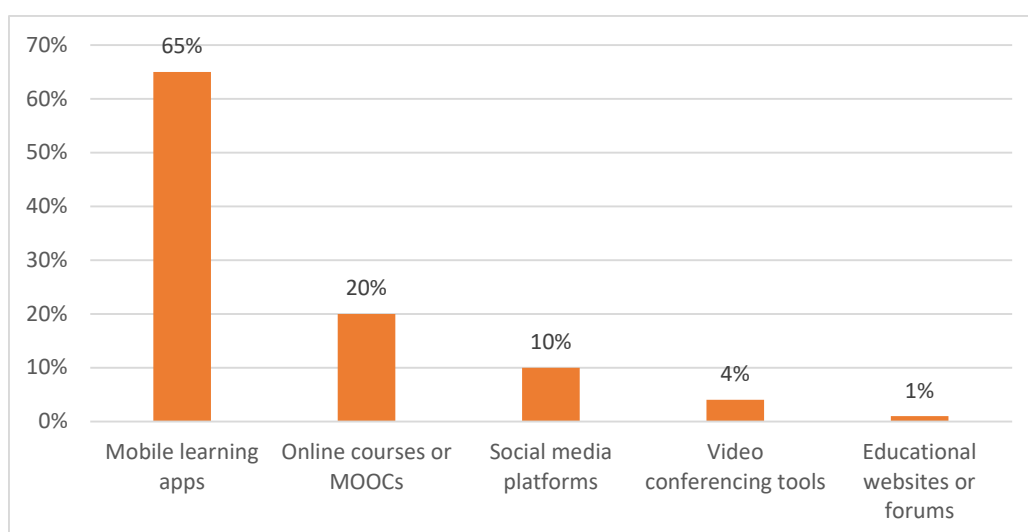


Figure 6: Most Frequently Used Technologies for Learning English

The data reveals that mobile learning apps are the most frequently used technology for learning English among the 100 female students surveyed, with 65% selecting this option. This suggests that mobile apps such as Duolingo and Babbel are highly accessible and preferred for their flexibility and user-friendly interfaces. Online courses and MOOCs come next, used by 20% of respondents, indicating interest in structured and comprehensive language learning programs. Social media platforms like YouTube and Instagram are utilized by 10%, highlighting informal yet valuable learning avenues. Video conferencing tools, used by 4%, may support interactive learning, though possibly limited by connectivity or scheduling challenges. Educational websites and forums were the least used at 1%, suggesting either lower awareness or accessibility barriers. Overall, the findings underscore the critical role of mobile technology in facilitating English learning, making it a key focus area for educational interventions aimed at empowering women through language proficiency.

DISCUSSION

The findings of this study underscore the critical role that digital technology and English education play in empowering women in higher education settings. Consistent with Mackey and Petruca (2021), the majority of respondents agreed that access to digital tools significantly enhances their educational opportunities, which reflects the broader understanding that technology can bridge gender gaps in education and facilitate sustainable development goals (Aslam, Abidi, & Rizvi, 2024). The strong positive response to using digital technology highlights its potential as an equalizer in contexts where traditional barriers often restrict women's educational advancement (Chandra, 2022).

Similarly, the impact of English language learning on women's confidence and career empowerment aligns with previous research emphasizing language proficiency as a means of social and professional empowerment (Haghighi, 2014; Srivastava, 2014). The fact that 80% of participants reported increased confidence in academic and social discussions suggests that English education is more than just linguistic competence; it enhances self-efficacy and agency, critical components of empowerment (Qamariah, 2024). This is consistent with Dewi, Artini, and Wahyuni's (2024) findings, which emphasize the role of effective English teaching in fostering positive gendered perceptions and encouraging female participation.

The predominant use of mobile learning apps for English education (65%) aligns with Carm and Øgrim's (2013) discussion on m-learning as a potential tool for women's empowerment, especially in contexts where access to formal education might be limited. Mobile technologies provide flexible and accessible learning environments, crucial for women balancing multiple social roles (Dodson, Sterling, & Bennett, 2013). Furthermore, the high agreement rate on digital tools aiding continuous learning outside the classroom supports Hakimi et al. (2024), who highlight digital literacy's transformative power in facilitating lifelong learning and social transformation.

However, the presence of a small proportion of respondents expressing disagreement or neutrality points to persistent challenges such as digital inequality and infrastructural barriers, as noted by Bara and Singh (2025) and Ukaigwe et al. (2025). These challenges must be addressed through targeted policies and inclusive digital strategies to ensure equitable access.

In conclusion, this study reinforces the significance of integrating technology and English education to empower women academically and professionally. By enhancing digital literacy and language proficiency, educational institutions can contribute to reducing gender disparities and fostering women's full participation in the digital economy and society.

CONCLUSION

This study highlights the significant impact of digital technology and English education on empowering women in academic and professional contexts. The findings reveal that access to digital tools such as smartphones, laptops, and mobile learning apps greatly enhances women's ability to pursue educational opportunities and continue learning beyond the classroom. These technologies provide flexibility, convenience, and accessibility that help overcome traditional barriers to education, particularly for women who may face social, cultural, or economic constraints.

Moreover, English language proficiency emerges as a powerful catalyst for boosting women's confidence in academic discussions and social interactions, which are essential for their personal growth and professional development. The ability to communicate effectively in English not only increases their self-assurance but also opens up new career possibilities, thereby contributing to their overall sense of empowerment.

The preference for mobile learning apps over other digital platforms underscores the importance of user-friendly and accessible technologies that cater to the needs of female learners. These tools enable women to engage in self-directed learning, which is critical for fostering independence and lifelong learning habits. At the same time, the study acknowledges the presence of some challenges, such as digital inequality and limited access to technology, which can hinder the full realization of these benefits.

Overall, the integration of digital technology and English education presents a promising pathway for bridging gender gaps in education and employment. Educational institutions, policymakers, and development programs should prioritize expanding digital literacy initiatives and providing inclusive, technology-enabled learning environments tailored to women's needs. By doing so, they can create empowering opportunities that promote gender equality and help women achieve their academic and career aspirations in an increasingly digital world.

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