

GENDER-BASED DEVELOPMENT AND IMPLEMENTATION OF E-LEARNING IN ISLAMIC HIGHER EDUCATION

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ABSTRACT

The integration of e-learning in higher education encounters intricate problems, including the gender-based digital divide, which may impact equitable access to education. This study seeks to examine the evolution and execution of e-learning through a gender lens within the Department of Political Science at the Faculty of Sharia and Law, UIN Sumatera Utara. Data were obtained utilizing a descriptive qualitative methodology through observation, in-depth interviews with 10% of students (randomly selected to ensure balanced gender representation) and instructors, as well as document analysis and literature reviews. The data analysis utilized qualitative methods incorporating a gender analysis framework. The research findings reveal: (1) merely 30% of lecturers utilize e-learning; (2) a gender disparity exists in technological access, with female students experiencing restricted access to personal devices; (3) digital literacy varies by gender owing to unequal socialization and opportunities; (4) participation trends indicate that female students prefer textual contributions over oral communication; (5) the dual burden of domestic responsibilities impedes the full participation of female students and lecturers. Obstacles encompass the digital access divide, disparities in digital literacy, gender norms, socio-cultural conventions, and insufficient gender-sensitive training. This study advocates for the formulation of gender-responsive e-learning policies, the enhancement of equitable technology access, the provision of inclusive digital literacy training, the creation of gender-neutral material, and the establishment of a gender-based monitoring system to guarantee equality in Islamic higher education.

Keywords: *E-Learning, Gender Disparity, Islamic Higher Education, Digital Divide, Gender-Sensitive Education.*

Introduction

The advancement of information and communication technology has significantly transformed numerous facets of life, particularly in the realm of education (Junaedy et al., 2023). Traditional classroom instruction is increasingly evolving into technology-driven learning, usually referred to as e-learning. This shift not only modifies the delivery of learning materials but also

reshapes the interaction dynamics between lecturers and students, while creating new opportunities for accessing education outside the constraints of geography and time (Maudiarti, 2018).

E-learning, as an electronic educational system, has emerged as a solution to the issues of education in the digital era (Shahmoradi et al., 2018). Through e-learning, educational resources can be accessible at any time and from any

location, provided there is an internet connection (Darmawan et al., 2025). This affords students considerable freedom in organizing their study schedules. The deployment of e-learning faces several hurdles, including infrastructure preparedness, user competency, and societal influences (Ahmad et al., 2023).

An often neglected factor in the deployment of e-learning is the gender viewpoint. Studies indicate a digital difference between genders in the access to and utilization of information technology. This disparity can influence students' engagement and academic performance in e-learning systems. Factors include access to technology, digital competence, home obligations, and sociocultural norms can establish varying barriers to online learning participation between male and female students.

The Siyasah Department at the Sharia and Law Faculty of UIN Sumatera Utara is now in the developmental phase of e-learning implementation. While certain lecturers have been utilizing online learning technologies, their adoption remains limited and suboptimal. Moreover, there has been a lack of comprehensive research regarding the impact of gender variables on the efficacy of e-learning implementation within this department. Comprehending gender dynamics within online learning is

essential to ensure the established system equitably meets the demands of all students. This research seeks to tackle numerous essential difficulties with the adoption of e-learning in the Siyasah Department of the Faculty of Sharia and Law at UIN Sumatera Utara. This research primarily aims to examine the evolution of e-learning deployment inside the department, considering policy, platform usage, and human resource preparedness. This trend warrants more examination as it encompasses not only the technical facets of learning but also addresses social factors, including gender relations and experiences inside the online teaching and learning process.

This research seeks to analyze e-learning development strategies that have been and can be used, with a focus on gender equity and responsiveness principles. This encompasses how learning design, interaction methodologies, and academic regulations can address the needs and experiences of students and lecturers from diverse gender backgrounds. This study examines the facilitating and obstructive variables of e-learning implementation, encompassing structural, cultural, and individual elements, particularly those influencing access, participation, and success in online education.

This study additionally investigates the disparities in experiences and problems

encountered by male and female students in accessing and engaging in online learning. These disparities may present as restricted access to technology, the encumbrance of family responsibilities, varying levels of digital proficiency, and differing engagement patterns in virtual classrooms. This study explores the roles of male and female lecturers in the adoption and implementation of e-learning, focusing on how gender views influence attitudes, teaching styles, and the utilization of learning technologies.

This research aims to examine the evolution of e-learning-based online education in the Department of Siyasah, Faculty of Sharia and Law, UIN Sumatera Utara, utilizing a gender perspective as the primary analytical framework. This research seeks to establish gender-responsive and inclusive e-learning strategies and to identify factors that facilitate or impede their adoption. This study seeks to thoroughly examine the disparities in learning experiences between male and female students, while simultaneously investigating the influence of gender on the adoption of online learning technology by lecturers. This project seeks to produce policy proposals to establish gender-equitable e-learning within the Faculty of Sharia and Law.

This research aims to contribute theoretically by enhancing the understanding of e-learning

implementation from a gender perspective within Islamic higher education. This research aims to provide a more extensive conceptual framework for comprehending the interplay between gender, technology, and online learning, while also enhancing the knowledge of socio-cultural factors' impact on the adoption of educational technology.

The findings of this research are anticipated to provide a reference for faculty and departmental leaders in developing more gender-responsive and inclusive e-learning strategies. This research can aid educators in developing and executing online learning that is more responsive to the demands of students from varied gender backgrounds. This research aims to enhance awareness among the academic community regarding the significance of gender perspectives in the deployment of educational technology, while offering specific recommendations to mitigate gender disparities in access and participation in online learning.

Method

This research seeks to tackle numerous essential difficulties with the adoption of e-learning in the Siyasah Department of the Faculty of Sharia and Law at UIN Sumatera Utara. This research primarily aims to examine the evolution of e-learning deployment inside the department, considering policy, platform usage, and human resource preparedness (Rado et al.,

2025). This growth warrants in-depth examination since it encompasses not only the technical facets of learning but also addresses social factors, including gender relations and experiences inside the online teaching and learning process.

This research seeks to analyze e-learning development strategies that have been and can be used, with a focus on gender equity and responsiveness principles (Nasution et al., 2025). This encompasses the ways in which learning design, interaction methodologies, and academic policies can address the needs and experiences of students and lecturers from diverse gender backgrounds. This study examines the facilitating and obstructive variables of e-learning implementation, encompassing structural, cultural, and individual elements, particularly those influencing access, participation, and success in online education.

This study additionally investigates the disparities in experiences and problems encountered by male and female students in accessing and engaging with online learning. These disparities may present as restricted access to technology, the encumbrance of family responsibilities, varying levels of digital proficiency, and differing engagement patterns in virtual classrooms (Syahrial Arif Hutagalung et al., 2025). This study investigates the roles of male and female lecturers in the adoption

and implementation of e-learning, focusing on how gender views affect attitudes, teaching styles, and the utilization of learning technologies.

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Results

The Execution of E-Learning in the Political Science Department

The research findings reveal that the integration of e-learning within the Political Science Department of the Faculty of Sharia and Law at UIN Sumatera Utara remains in its nascent phase and has yet to be fully included into the educational framework. The e-learning adoption rate, approximately 30% of total lecturers, signifies that the use of learning technology remains limited and largely dependent on individual lecturer effort. Despite the university's provision of a Learning Management System (LMS) as the official platform, the utilization of alternative platforms such as Google Classroom and instant messaging programs reflects

lecturers' attempts to tailor technology to the practical requirements of education.

The disparity in e-learning adoption rates between male and female lecturers initially seemed to be a gender-related issue; however, subsequent analysis indicated that age and teaching experience exerted a more substantial impact. Junior lecturers, regardless of gender, exhibited greater receptiveness to technological innovation and demonstrated increased confidence in incorporating e-learning into their pedagogy. This data substantiates the perspective that the technology adoption disparity in education is not only attributable to gender, but rather to the interplay of gender, generation, and prior technological experience access.

Students regard e-learning as both essential and a chance to enhance learning flexibility. The majority of students contend that online learning facilitates broader access to resources and fosters self-directed learning. Nonetheless, this flexibility is not uniformly experienced by all students, since substantial disparities exist between male and female students.

Variations in Student Experiences According to Gender

This study reveals a significant disparity in technology and internet access between male and female students. Male students typically possess more consistent access to personal digital equipment, especially

laptops, whereas certain female students continue to depend on shared devices or smartphones. This inequality is inextricably linked to socio-economic issues and resource distribution practices inside families, which continue to be affected by gender bias. In resource-constrained environments, precedence in acquiring technical items is frequently afforded to boys, who are perceived to possess larger demands or advantages

Besides device access, female students have more obstacles to achieving good internet connectivity. These impediments are both technical and socio-cultural. Several female students indicated constraints regarding personal space, familial oversight, and societal scrutiny while dedicating extended periods to computer use or venturing outside the home to obtain internet access. This condition signifies that online learning is not wholly gender-neutral, as it occurs within household environments imbued with gender-based power dynamics and societal expectations.

Male students generally exhibit greater confidence in utilizing e-learning functionalities and resolving technical issues regarding digital literacy. Conversely, several female students articulated reservations regarding their technical competencies, despite being objectively proficient in utilizing

technology. This finding is not universally applicable. Female students with early access to and exposure to technology demonstrated equivalent, and in certain instances superior, digital literacy compared to male students. This affirms that the digital literacy gap mostly results from gender socialization processes and unequal chances, rather than disparities in biological or cognitive abilities.

Patterns of student participation in online learning also disclose intriguing gender relations. In asynchronous talks, the engagement of male and female students is comparatively even. In synchronous meetings such as video conferences, male students often exhibit greater dominance in verbal communication, whereas female students tend to engage more through the chat function. This inclination is shaped by multiple factors, including self-confidence, family environment, and social norms that affect women's comfort in public speaking, both in physical and virtual settings.

Dual Burden and Gender Norms

A significant discovery is the disparity in workload and responsibility between male and female pupils. Female students regularly indicate a higher domestic workload, including assisting with household chores and providing care for family members. Remote learning from home supports the notion that female students are available to fulfill domestic

tasks due to their physical presence in the household. In contrast, male students generally receive more room and acknowledgment for their academic endeavors, even when conducted online. This situation suggests that online learning may perpetuate existing gender inequities unless supported by policies and educational systems that include students' social contexts.

The Adoption of E-Learning by Educators: A Gender Perspective

Lecturers are uniformly motivated to adopt e-learning primarily to enhance learning efficacy and align with the requirements of the digital age. Nonetheless, the challenges encountered expose more intricate gender subtleties. Male instructors predominantly emphasize technical and infrastructural impediments, whereas female lecturers, in addition to encountering analogous technical hurdles, also grapple with time management issues stemming from the simultaneous demands of academic responsibilities and household obligations. Female lecturers in teaching practice often cultivate more collaborative and relational e-learning methodologies, prioritizing personal engagement and communication. Concurrently, male lecturers typically employ methodologies that are predominantly content-centric and task-oriented. This disparity illustrates the impact of gender socialization on

educational methodologies; it is not intended to be adversarial but should be perceived as the opportunity for varied approaches that might enhance one another.

Factors Facilitating and Impeding the Implementation of E-Learning

This study delineates several facilitating factors for e-learning implementation, including institutional backing through LMS provision, considerable student motivation, the presence of a community of practice for educators, and Islamic principles that underscore the significance of equitable and inclusive education. Nevertheless, obstacles such as the digital access divide, disparate digital literacy levels, gender-specific dual responsibilities, socio-cultural conventions, insufficient gender-responsive training, and inadequately gender-sensitive educational content continue to provide significant hurdles.

Strategy for Developing Gender-Responsive E-Learning

According to these findings, the advancement of e-learning in the Department of Political Science must focus on tactics that highlight gender equality as a fundamental principle. The strategy encompasses equitable technology access expansion, bolstering inclusive digital literacy, augmenting faculty proficiency in gender-responsive pedagogy, implementing flexible and diverse learning

designs, developing gender-sensitive content, establishing adaptive support systems for varied needs, and conducting gender-based data monitoring and evaluation. This overarching plan requires robust and coherent institutional rules to guarantee that e-learning serves not merely as a technological advancement but also as a vehicle for social justice in Islamic higher education.

Relevation to the Theory

This study's findings affirm that e-learning implementation should not be perceived merely as a technological matter, but as a social practice shaped by gender dynamics, power hierarchies, and cultural environment. This corresponds with the digital divide theory, which asserts that the digital gap manifests not only in terms of access (access divide) but also in skills (skills divide) and usage (usage divide) (Zwanenburg et al., 2020). Within the Political Science Department, the disparity in access to gadgets and digital skills between male and female students suggests that e-learning may perpetuate social inequities if not inclusively constructed.

The results indicating the predominance of male students in oral communication during synchronous learning correspond with feminist pedagogy research, which emphasizes that learning environments—both physical and virtual—frequently mirror patriarchal standards that privilege

masculine communication methods (Stacy Hooks et al., 1994). The preference of female students for text-based participation does not signify inactivity; instead, it reflects an adaptive approach to maintain engagement in environments that are less socially and culturally friendly. This underscores the significance of instructional design that offers diverse avenues for participation, ensuring equitable representation of all viewpoints.

Differences in teaching techniques between male and female lecturers can be analyzed via the framework of gender socialization theory in professional practice. The female lecturers' focus on collaborative and relational methodologies corresponds with prior research indicating that women often cultivate pedagogies rooted in empathy and interpersonal connections (Maher & Thompson Tetreault, 2013). In contrast, the male lecturers' emphasis on content and outcomes exemplifies the prevailing instrumental pedagogical model in higher education. This research affirms that these two approaches are not hierarchical but complementary, and can enhance students' learning experiences when properly combined.

The results concerning the dual burden faced by female students and lecturers corroborate the assertions of the gendered division of labor theory, which posits that women often shoulder family

responsibilities while simultaneously engaging in school and professional endeavors (O'Connell et al., 2012). In the realm of online education, the home transforms into a learning environment, conflating academic and domestic duties. In the absence of gender-sensitive policies, e-learning may intensify the burdens on women and reinforce structural inequities. From an Islamic educational standpoint, these findings possess considerable normative ramifications. The principles of fairness (*'adl*), public interest (*maṣlahah*), and human equality before God necessitate that access to education remains unimpeded by gender-based societal conceptions. Consequently, the advancement of gender-responsive e-learning is not only pedagogically pertinent but also possesses a robust ethical and religious basis rooted in Islamic ideals.

Conclusions

From the research findings and discourse on the development and execution of e-learning-based online education with a gender perspective in the Department of Political Science, Faculty of Sharia and Law, UIN Sumatera Utara, numerous crucial conclusions can be derived. The adoption of e-learning in the Department of Political Science remains in its nascent phase and has yet to be systematically included into the educational framework. The comparatively low adoption rate

suggests that e-learning is perceived as an adjunct rather than a fundamental component of the major's pedagogy. The disparity in e-learning adoption among male and female lecturers is not only dictated by gender; rather, it is predominantly shaped by variables such as age, teaching experience, and technological proficiency. This affirms that the technology adoption divide is both structural and generational, while also intersecting with gender dynamics.

This study identified a notable gender disparity in access to technology and the internet among pupils. Female students often experience restricted access to personal technology equipment and encounter supplementary societal obstacles to achieving optimal internet connectivity. This disparity illustrates the significant impact of social norms and resource distribution methods among persistently gender-biased families, which directly affects female students' educational possibilities in online learning. Third, pupils' digital literacy exhibits disparities intricately linked to gender socialization processes and inequitable chances. While male students typically express greater confidence in utilizing technology, research suggests that this disparity is attributable not to innate capability, but to variations in access, experience, and environmental support.

Consequently, the digital literacy gap constitutes a systemic issue that can be remedied through suitable educational policies and initiatives. Fourth, the patterns of student engagement in online learning exhibit gender-based disparities, particularly in synchronous learning environments. Female students generally exhibit greater comfort in textual participation rather than spoken communication, affected by factors including privacy, domestic environmental conditions, and societal norms pertaining to female expression in public contexts. This research substantiates that online learning frameworks lacking different participation avenues may restrict the engagement of female students.

The dual burden faced by female students and certain female lecturers constitutes a substantial impediment to the execution of e-learning. Online learning conducted in domestic environments promotes conventional gender role expectations, so constraining women's time and energy for optimal participation in learning and the creation of e-learning materials. This circumstance indicates that e-learning is not inherently liberating without conscious awareness and gender-sensitive policy. This study identifies that the successful deployment of e-learning is affected by a combination of facilitating and obstructing elements. Institutional support, student

enthusiasm, the community of educators, and Islamic principles concerning justice and the significance of education are vital assets in the advancement of e-learning.

Nonetheless, obstacles such as the digital access divide, disparate digital literacy levels, gender-specific dual responsibilities, socio-cultural conventions, insufficient gender-responsive training, and gender-insensitive educational materials continue to present issues that require systematic resolution. This research substantiates that the advancement of e-learning within the Department of Political Science is intrinsically linked to gender analysis. E-learning should be seen as a pedagogical activity that engages with social and cultural frameworks; hence, its advancement must focus on fostering equitable, inclusive, and gender-just education, consistent with the principles of Islamic education.

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