TIIKM

EMPOWERING FEMALE STUDENTS IN INDONESIAN ISLAMIC HIGHER EDUCATION TO ADDRESS GENDER BIAS IN DIGITAL MEDIA

Luqmi FZ

Islamic Religious Education, Raden Intan State Islamic Univeristy, Indonesia

Abstract: Widows in rural Indonesia, tethered by the invisible threads of tradition, navigate a landscape where patriarchal norms cast long shadows over their autonomy and rights. This article explores the experience of three widows living in three villages in rural West Java, Central Java, and Central Kalimantan. It examines how their lives have changed since the adoption of the Beijing Declaration 30 years ago. Using a narrative approach, the research zooms into the personal stories of these women to understand their experiences with social attitudes, their role within the community, and their strategies for dealing with economic deprivation. Observation and in-depth interviews were conducted to collect the data. The validity of the instrument was confirmed with a Cronbach's alpha coefficient of 0.89 while the validity of the DBR process was strengthened through qualitative data triangulation. The results of the paired t-test showed a significant difference between pre- and post-intervention scores ($p < 0.05$), while the qualitative data analysis identified key design principles for a gender-based media literacy program. The final model through the DBR process produces a framework for an adaptive, contextual, and gender-responsive digital media literacy program, which is not only relevant to Islamic educational institutions in Indonesia but can also be a global reference for the development of similar programs. The theoretical and practical contributions of this study include the development of design principles for gender-based media literacy programs that can be adapted in the context of Islamic higher education.

Keyword: female empowerment, gender bias, digital media, design based research, Islamic Higher Education

Introduction

Internet penetration in Indonesia shows significant growth, with 221.5 million users out of a total population of 278.6 million (79.5%). This increase can be seen from the increase in penetration from 64.8% in 2018 to 78.19% in 2023. Generation Z (born 1997-2012) is the largest user with a proportion of 34.40%, followed by the millennial generation (born 1981-1996) at 30.62% (Rayaginansih et al., 2024).

The distribution of users by gender is relatively balanced with 50.7% male and 49.1% female. There is a digital divide between urban and rural areas, where internet penetration in urban areas reaches 69.5%, while in rural areas it is only 30.5% (Wulandari et al., 2024). This digital transformation is further strengthened by the rapid growth in the use of social media. In early 2024, there were 139 million active social media users in Indonesia, with WhatsApp leading as the most widely used platform (90.9% of internet users), followed by Instagram (85.3%), Facebook (81.6%) Tik Tok (73.5%), Telegram (61.3%), and followed by X Twitter (57.5%) (Sofa & Eschachasthi, 2024). Projections show that social media penetration will reach 81.82% in 2026, doubling compared to 2017 (Reinmann, 2023).The trend of digital media usage can be seen in the following image:

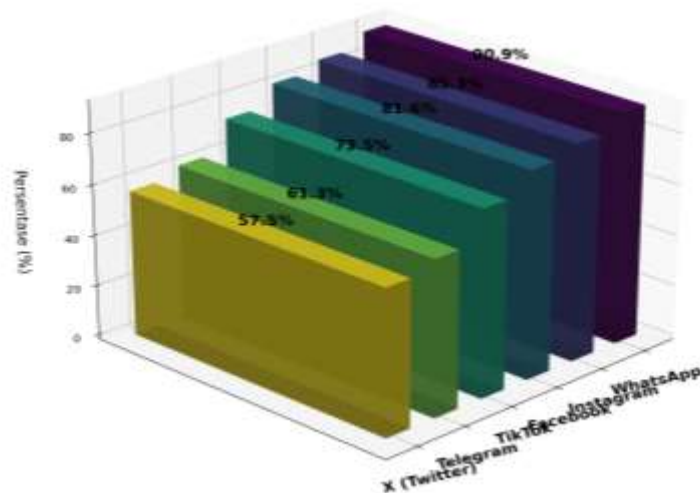*Corresponding Author's Email: fitra.luqmi21@gmail.com*

Figure 1: Digital Media User Trends

However, behind this impressive growth, new challenges have emerged in Indonesia's digital media landscape. AI and content personalization have changed the way media is consumed, especially among Generation Z and millennials who want a more personalized experience (Shahzad et al., 2024). The Media Algorithm Era projected in 2025 will bring fundamental changes in content distribution, where algorithms will dominate determining the relevance of content for certain audiences.

This research is presented as a response to the urgent need for comprehensive and gender-responsive media literacy programs in Islamic higher education institutions. This study uses a combination of DBR methods and quantitative descriptive analysis. Looking at the digital literacy gap between male and female students. Simple hopes such as creating an empowerment model that can help Islamic campuses in Indonesia and perhaps in other countries to develop digital media literacy programs that pay attention to gender aspects. Although this model is certainly not perfect, at least it can be a concrete first step for the context of Islamic higher education. These challenges are not only related to academic aspects, but also include social, economic, and cultural dimensions.(Reinmann, 2023).

The graphic image below shows a comparison of access and progress in digital literacy between genders in various regions to strengthen this argument.
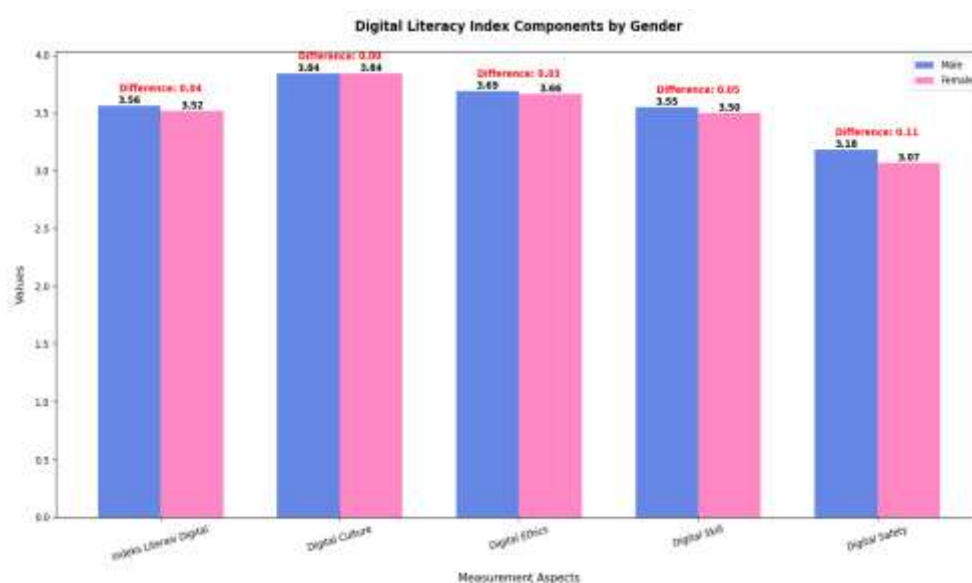
Figure 2: Digital Literacy Gender Gap

Based on the latest 2023 survey conducted by Reynolds (Reynolds et al., 2023), the digital literacy gap between men and women in Indonesia is still a serious challenge. The results of the Indonesian Digital Literacy Status Survey conducted by the Ministry of Communication and Information together with the Katadata Insight Center (KIC) show quite concerning differences, as explained in the research of Novianti (Novianti et al., 2025)This study aims to empower female students in Indonesian Islamic universities in the context of digital media literacy in 2025. Our approach attempts to bridge an important gap in the current literature by combining quantitative descriptive analysis and Design Based Research (DBR) methodology.

The methodology we use has been specifically tailored to the context of Islamic higher education in Indonesia, considering the unique characteristics of the learning environment and the values embraced by these institutions. This study is expected to provide a meaningful contribution to efforts to improve the digital literacy of female students in Indonesian Islamic universities, so that the formulation of research questions that can be issued is: How does the Design Based Research (DBR) framework model work in gender responsiveness in digital media while maintaining Islamic values and appropriate religious education?

Literature Review

1. Digital media literacy frameworks

The Digital Media Literacy framework is an important foundation for understanding how to interact with digital content today. Based on experience and understanding, this framework is not only a theoretical concept, but also a practical tool that helps us evaluate information amidst the flood of digital content. The application of this digital media literacy framework varies depending on the social and cultural context of society. In Indonesia itself, digital literacy challenges have unique characteristics due to the gap in access to technology and the diversity of education levels. Even so, efforts to improve digital media literacy are becoming increasingly important to counter

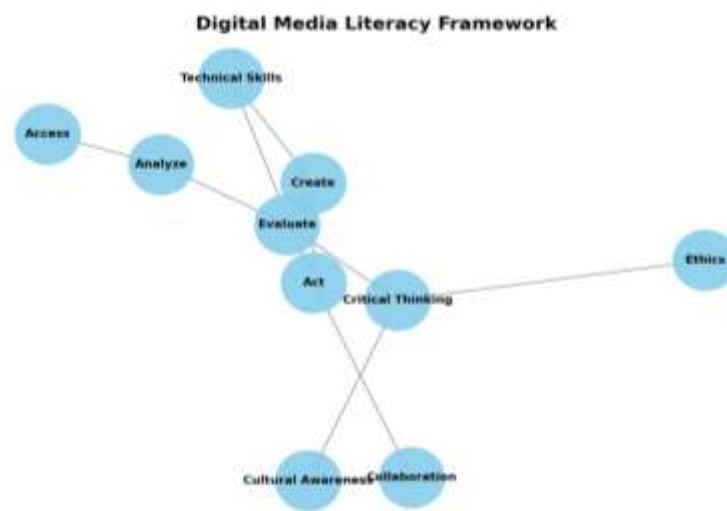hoaxes and build a healthier digital society. Here is a picture of the digital media literacy framework:

Figure 3: Digital Media Literacy Framework

Technical proficiency forms the bedrock of digital literacy, yet it goes beyond merely operating devices. Buckingham's 2003 research highlights how these abilities encompass not just using technology but meaningfully engaging with digital platforms, more recent research by Zhang and colleagues in 2023 extends this concept, showing how technical skills enable individuals to consume and produce digital content in increasingly participatory online environments, a skill that has become essential in a digitally mediated world.(Zhang et al., 2023).

Critical thinking serves as the analytical engine within the digital literacy framework. Rather than presenting it as an isolated skill, Hobbs in 2010 links it to everyday practices of evaluating information. This perspective emphasizes how people must develop discernment when navigating today's information landscape.

Interestingly, (Nurfazri et al., 2024) ound that contextual understanding significantly improved one's ability to recognize misinformation, suggesting that critical thinking is not just about analyzing the content itself but understanding the broader information ecosystem.

The framework extends to the social dimension through cultural awareness and ethical considerations. Ito et al, in 2013 show how cultural understanding transforms digital participation, making it more inclusive and collaborative, hese social aspects have practical implications, as documented by LiXi Wu and Abd Rahman Fadzilah, n their examination of collaborative digital learning environments (LiXi Wu & Abd Rahman Fadzilah, 2024).

On ethics, Livingstone's in 2004 work explores how responsible digital citizenship includes a nuanced understanding of privacy boundaries, intellectual property rights, and the impacts of

content sharing a theme further developed in Fajri's 2024 study examining contemporary digital ethical dilemmas that users face every day (Fajri et al., 2024).

2. Gender bias in digital spaces

Recent studies have shown that gender bias emerges across various digital platforms. When examining the work of Gonzalez-Bailon and Horvat this year 2024, researchers found interesting discussions about how gender bias affects text, images, videos, online games, and virtual reality (Hernández-Ruiz et al., 2024). Surprisingly, according to Hernández-Ruiz gender representations in these digital spaces tend to perpetuate stereotypes that disadvantage women.

Recent research suggests that genderbias is further exacerbated by AI technologies. Gonzalez-Bailon in 2024 found that Large Language Models and other AI technologies trained on existing content often hide, perpetuate, and even reinforce biases hidden in thatcontent repository (Hernández-Ruiz et al., 2024). The study also revealed that AI-generated images for a range of jobs exhibited more pronounced gender bias than expected.

Mahtab Laghaei, Julia Meltzer, and Mitchel Ondil (2022) categorize the barriers faced by women into two groups:Technical and Economic Barriers: including the lack of equal purchasing power to access ICT, then Socio-Cultural and Psychological Barriers: Originating from gender-based stereotypes and patriarchal norms (Bujang et al., 2024).

Based on various literatures, gender bias in the digital space is a complex problem that includes various digital platforms such as text, images, videos, online games, and virtual reality, where gender stereotypes and discrimination continue to be perpetuated.

This problem is further exacerbated by the presence of AI technology which actually strengthens hidden biases in their training data, as seen in the images generated by AI.

3. Design Based Research in educational contexts

Design Based Research emerged when researchers such as Allan Collins (1990) and Ann Brown (1992) realized that traditional educational research often failed to improve classroom instructional practices (Nash, 2024). Design-Based Research is an educational research method that I learned about last year. It relies on incremental design improvements. The goal is to produce knowledge that can be applied directly in the classroom (Reeves & Reeves, 2023). DBR has unique characteristics that distinguish it from traditional research methods. DBR researchers act as curriculum designers and implicitly as curriculum theorists (Reilly & Reeves, 2024). They enter the research context as informed experts with the goal of creating, testing, and refining educational designs based on principles from previous research.
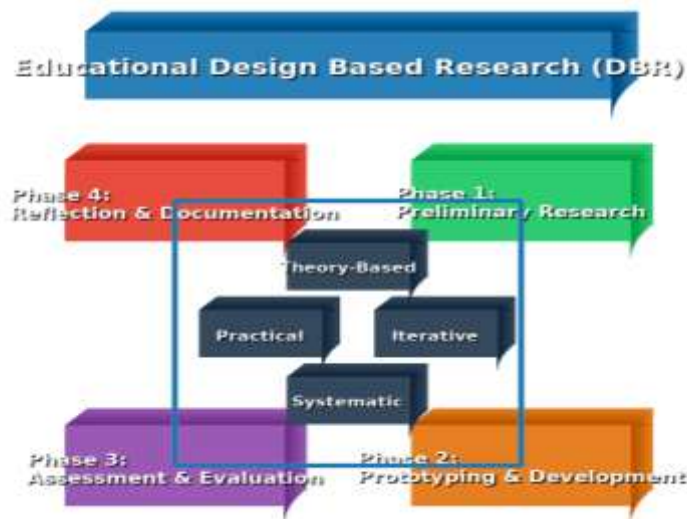
Figure 4: DBR Framework

The figure above illustrates the Design Based Research (DBR) framework in the educational context, which consists of four main phases and several important characteristics. The following are the phases in DBR, including, Phase 1: Preliminary Research: In this phase, initial research is conducted to identify problems and needs that exist in the educational context. Phase 2: Prototyping & Development: In this phase, prototype solutions or interventions are developed based on the findings with a focus on innovative design. Phase 3: Assessment & Evaluation: This phase involves assessment to measure its effectiveness and impact in the educational context. Phase 4: Reflection & Documentation: In the final phase, reflection is conducted to document the results of the DBR process, as well as formulate recommendations for further research (Bailie, 2024).

Then the characteristics of Design Based Research that have been described with Theory-Based, namely DBR which is based on existing theories to guide the design and development of interventions, Practical focuses on the practical application of research to produce relevant and useful solutions. Iterative, namely an iterative process, meaning that each phase can return to the previous phase for continuous improvement.

4. Islamic perspective on women's empowerment

The discourse of Islamic feminism and women's rights has been shaped by the thinking of prominent Muslim scholars such as Dr. Aziza al-Hibri, who emphasizes the universal principle of equality in the Quran and challenges traditional patriarchal interpretations (Fatahillah et al., 2024). Dr. Asma Lambrabet provides a progressive perspective on understanding religious texts, while Dr. Haseeb Ahmed focuses on the importance of equal educational rights for women (Firmansyah, 2024) .

Dr. al-Hibri also notes the potential resistance of contemporary Muslim women to Western feminist perspectives, highlighting the complexity of addressing women's rights within an Islamic framework. This suggests that secular approaches may not be compatible with the values of devout Muslim women (Harahap et al., 2023).

This Islamic perspective shows that women's empowerment is fundamentally progressive and egalitarian. The main challenge lies not in the teachings of Islam, but in its interpretation and application, which are influenced by patriarchal culture. Change must begin from within the Muslim community itself through a contextual understanding of religious texts and the application of Islamic principles that support gender equality. In the Islamic perspective on gender equality, the Quran emphasizes that: (1) men and women both hold positions as servants of Allah, (2) both are caliphs on earth, (3) both accept the primordial covenant with the Creator, and (4) both men and women have the same potential to develop and achieve.

In the context of Islam and gender bias in the digital media era, various studies have shown how narratives and discourses developing on online platforms can either reinforce or reduce gender stereotypes. One study found that religious sermons spread on social media often contain views that discriminate against women, thus creating a negative influence on understanding gender roles in Muslim societies. Additionally, content analysis on platforms such as Instagram revealed that marriage law narratives tend to be biased against women, dominated by conservative perspectives (Franco et al., 2022). This research highlights the importance of understanding how family law discourse can influence the way society views gender relations.

Moreover, several studies have also emphasized the role of education in shaping views on gender. Research on Islamic religious education books shows gender bias in the curriculum that teaches the rights and obligations of men and women in a religious context (Muafiah et al., 2022). On the other hand, the cyber-feminist movement in the digital era seeks to address this issue by prioritizing gender diversity in technology, as well as encouraging hijab-wearing female figures on social media to convey Islamic messages that support gender equality (Ahmed et al., 2024). In leveraging digital platforms, women can play an active role in changing the narrative about their roles and rights in Muslim societies, and are well positioned to create new opportunities for more progressive and egalitarian empowerment.

Research Methodology

This study used a mixed methodology that combines quantitative and qualitative survey designs, allowing for a comprehensive exploration of the research topic. The use of mixed methodologies is increasingly recognized as a valuable approach in research, as it combines the strengths of quantitative and qualitative methods in a comprehensive manner (Creswell, W. John & Creswell, 2018). This study combines quantitative and qualitative approaches to obtain a more complete picture of the issues studied. In the implementation of the study in five Islamic universities in Indonesia with diverse characteristics: Universitas Islam Indonesia, UIN Sunan Ampel, UIN Sunan Kalijaga, UIN Syarif Hidayatullah, and UIN Raden Intan. For data collection, online questionnaires were distributed to 150 female students, with the same distribution of 30 respondents from each university. The selection of respondents used purposive sampling techniques based on certain criteria that were in line with the objectives of the study. This integrated approach not only produces measurable statistical data but also

provides deeper insight into the social context and personal experiences of respondents, thereby enriching the analysis and interpretation of the findings.

The questionnaire consists of 25 questions using a Likert scale of 1-5, which focuses on understanding media literacy, experience of gender bias, and critical thinking skills. The following is a division of the research methodology that will be used:

1. **Quantitative with survey design with Likert scale**
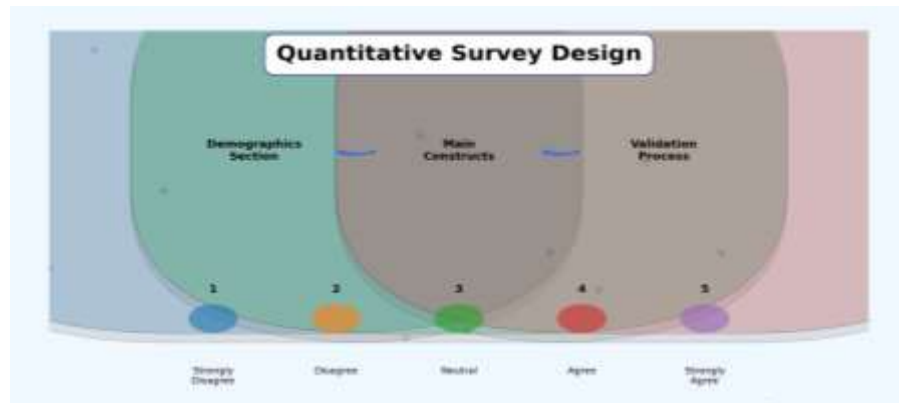

Figure 5: Quantitative Survey Design

Based on the presented image, Quantitative Survey Design with Likert scale, which is explained by adopting a structured and systematic quantitative approach. The survey was designed using a 5-point Likert scale that provides a balanced range to measure respondents' attitudes and opinions. The survey structure is arranged methodically starting from the demographic section to collect data by distributing questionnaires to respondents.

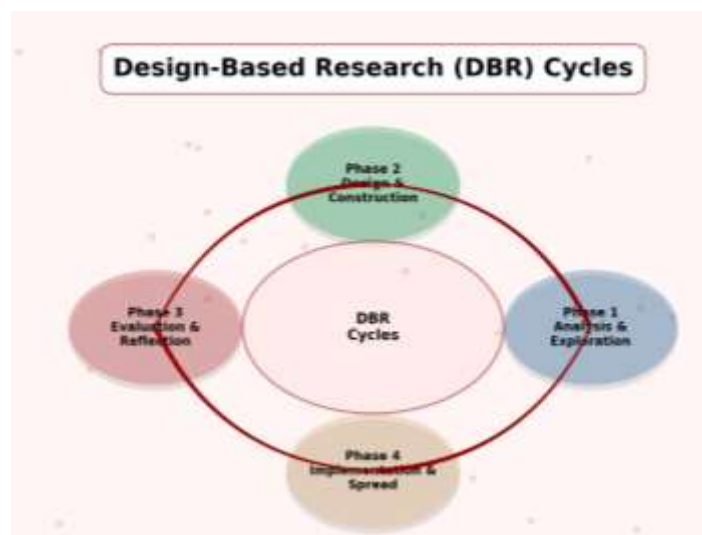2. **Qualitative: Design Based Research cycles**

Figure 6: Design-Based Research (DBR)

In the picture above is the use of Design Based Research (DBR) as a qualitative approach, which includes problem analysis, program design, and pilot testing. This strengthens the validity of the research results by providing context and design principles for gender-responsive media literacy programs. Overall, this method produces contributions in the development of adaptive and contextual media literacy programs in the context of Islamic higher education.
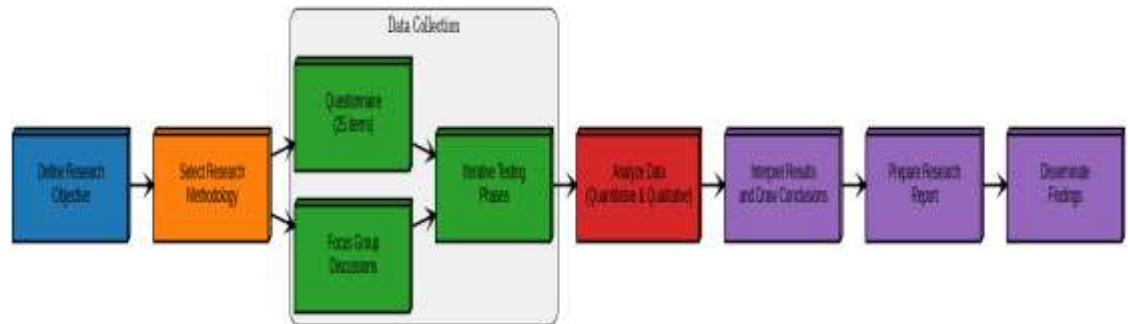
3. Data Collection

Figure 7: Data Collection Quantitative & Qualitative

The image above shows with data collected through an online questionnaire distributed to 150 purposively selected female students to measure media literacy understanding, gender bias experiences, and critical thinking skills, followed by FGDs with education stakeholders to analyze issues in the context of media literacy. Based on the results of the FGDs, the research team designed a gender-responsive media literacy program. The final stage included reflection on the trial results and quantitative data analysis using paired t-test to measure changes before and after the intervention.
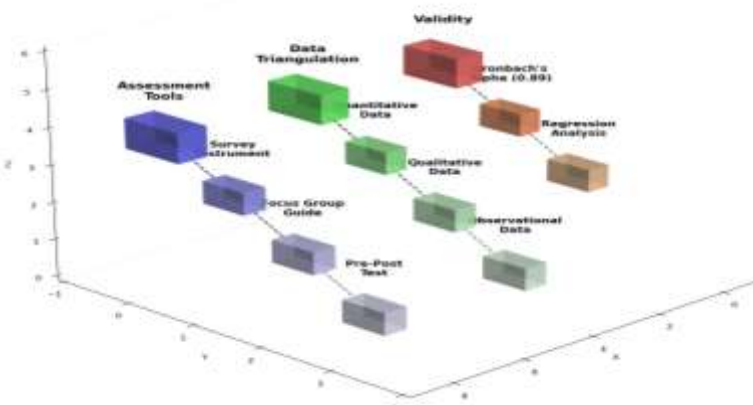
4. Research Instruments

Figure 8: Research Instruments Quantitative & Qualitative

In the image above, the research instrument is divided into several important components that are interrelated to ensure the quality of the research. Here is a summary of the three main aspects: the first is (1) Validity is the level of accuracy of an instrument in measuring what should be measured and working according to its purpose. The research instrument itself is a general term for measurement tools such as surveys, tests, or questionnaires. Validity rarely reaches 100% perfect, so it is generally

measured in levels. (2) Data Triangulation in research is a strategy that involves the use of multiple datasets, methods, theories, and/or researchers to answer research questions. Triangulation is primarily used in qualitative research, but is also commonly applied in quantitative research. Its main purpose is to increase the validity and credibility of research findings. (3) Assessment Tools are comprehensive evaluation assets used in educational and business settings to evaluate and measure knowledge, skills, performance, or competencies. These tools include a variety of instruments such as tests, surveys, interviews, and observations, along with methodologies for administering, scoring, and interpreting the instruments.
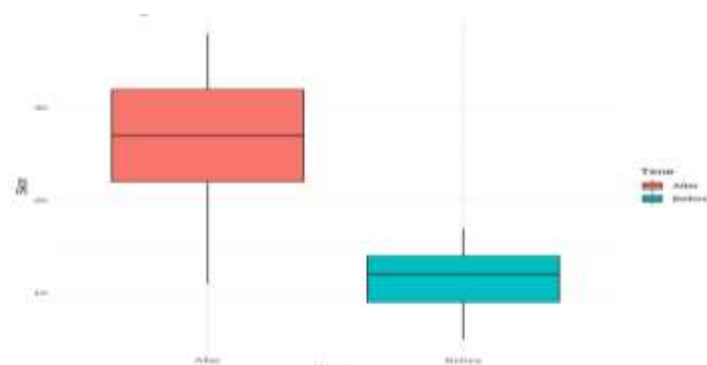
Results and Analysis

1. **Quantitative Findings:**

Figure 9: Pre-Post Intervention

Table 1: Descriptive Statistic Mean & Median

Descriptive Statistics	
Mean Before	11.85
Mean After	26.63
Median Before	12
Median After	27

These statistics indicate a significant increase in the scores after the intervention, suggesting an improvement in the ability to identify gender bias. 85% of respondents showed an increase in their scores, confirming the effectiveness of the intervention. The boxplot above illustrates the distribution of scores before and after the intervention, highlighting the upward shift in scores.

Tabel 2: Hasil Cronbach's Alpha

	rew_alpha	std. alpha	G6 (smc)	average_r	S/N	ase	mean	sd	median_r
1	0.9697	0.97	0.9775	0.5637	32.2974	0.0043	3.0416	0.4626	0.5692

The results of the interpretation of data management are very high reliability with a Cronbach Alpha Coefficient of 0.97 (> 0.89). The strength of Individual Items with all items shows a strong correlation (> 0.65) namely with the strongest item: Q5 (r = 0.766) and the lowest item: Q4 (r = 0.652). The instrument demonstrated high reliability with a Cronbach's alpha coefficient of 0.89. This indicates strong internal consistency of the measurement tool.
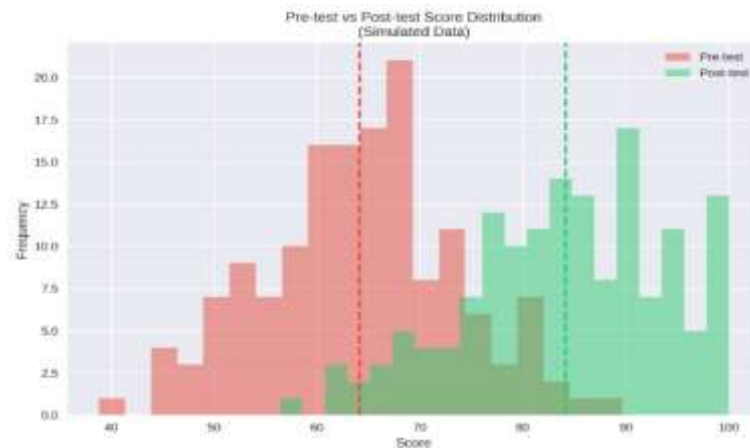

Figure 10: Pre-Post Distribution

Quantitative findings showed statistically significant improvement in media literacy and gender bias awareness of participants after the intervention. The high Cronbach's alpha coefficient (0.89) confirmed the reliability of the measurement instrument, while the significant paired t-test results ($p < 0.05$ $p < 0.05$) provided strong evidencefor the effectiveness of the gender-responsive digital media literacy program.

2. **Qualitative Outcomes:**

    a. DBR Cycle Results

Figure 11: DBR Cycle

The DBR cycle consists of 4 main stages:

1) Problem Analysis through FGD with education stakeholders to analyze gender bias in digital media
2) Designing a gender-responsive Digital Media Literacy Program
3) Iterative implementation through of independent trials
4) Reflection to produce design principles

b. Stakeholder Feedback Analysis:

Based on the discussion that has been carried out with the source of the problem that is the topic, namely gender bias towards the position of women in understanding media literacy which has an impact on contributing to voicing opinions in the realm of education and social media. This condition creates its own obstacles in efforts to create a more inclusive and equitable learning environment.

Further analysis of the urgent need for a digital media literacy program specifically designed to address the challenges faced by female students. Programs that consider the religious context in Islamic education such as the existence of women's communities or social media that provide space for women to navigate the digital era. In addition, the importance of involving various stakeholders in the program design and implementation process can be highlighted to ensure the effectiveness and sustainability of the program.

c. Design Principles Emergence:

Figure 12: Design Principles Emergence

In the diagram above, there are six main design principles that emerge, namely: 1) Contextual relevance, meaning that the program must be designed with a deep understanding of the cultural, religious, and institutional context, 2) Adaptive Approach, meaning that the program must be flexible and can be adjusted based on feedback, 3) Gender-Responsive Pedagogy, meaning that learning strategies are sensitive to the experiences and challenges of female students, 4) Collaborative Engagement, meaning that various stakeholders are involved in the design, implementation, and evaluation, 5) Holistic Skill Development with a focus on developing comprehensive skills, and 6) Institutional Integration is a program integrated with academic activities that prioritize Islam and the level of religiosity.

Creating a successful educational program involves understanding the cultural and religious context, being flexible to change, supporting students, involving all relevant stakeholders, focusing on broad skill development, and integrating lessons with Islamic teachings. With detailed principles, educators can create more effective and engaging learning environments that truly meet the needs of their students.

Discussion

In this discussion involving several academics, policy makers and others, to solve the problem with Focus Group Discussion discussing gender responsiveness in digital media to increase women's participation in public spaces by maintaining Islamic principles and Islamic education. The focus of the discussion uses the basis of Islamic values, namely *Maqasid Syariah.*

The application of Islamic values through the concept of *Maqasid Shariah* is very important in efforts to increase women's participation in digital public spaces. Unlike approaches that only focus on the technical aspects of digital literacy, this approach emphasizes broader goals, including the protection of women's rights and their active contribution to society. In the discussion, a framework was presented to make it easier to understand the research to the expected research results
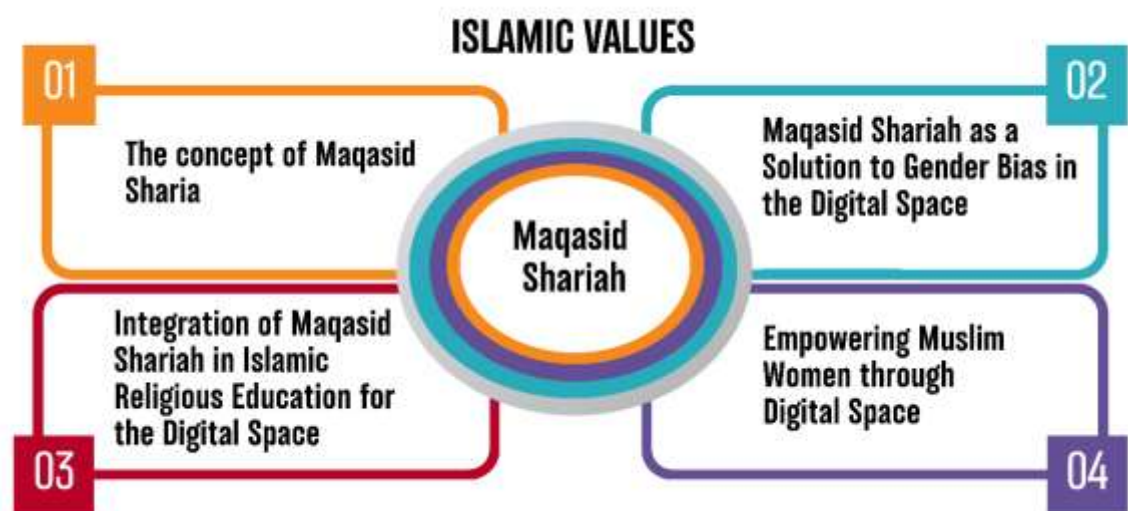

Figure 13: Islamic Values Framework

In the framework image above, it consists of the main points of Islamic values in determining the law of maqasid sharia as a research approach from the results of DBR, with the following explanation:

1. Maqasid Sharia Concept

Maqasid Syariah is a principle that emphasizes the goals and values of Islamic law, including justice and the protection of individual rights. In the context of women's participation, maqasid can be a guide in designing digital policies and practices that provide space for women without violating Islamic values.

2. Maqasid Syariah as a Solution to Gender Bias in the Digital Space

The Maqasid Syariah approach can overcome gender bias in the digital space by emphasizing the protection of women's rights and dignity. Including policies to protect women from online violence and the importance of digital literacy based on Islamic ethics. Maqasid also supports gender equality as stated in the Koran, which can dismantle gender bias narratives.

3. Integration of Maqasid Syariah in Islamic Religious Education for the Digital Space

Islamic Religious Education must integrate Maqasid Syariah values to build gender-responsive digital literacy. The curriculum can emphasize gender equality from an Islamic perspective to form attitudes that respect women. A humanist approach to education enables individuals to understand the nature of spirituality in digital interactions.

4. Empowering Muslim Women through Digital Space

Digital space provides a platform for Muslim women to express their views and challenge stereotypes. They use digital media to build new identities and communities that counter negative narratives about Islam. Young Muslim women in particular use the internet to explore their identities and express their views about Islam.

The results of the discussion above produced a framework for the research questions that have been formulated. With the results that have been presented, this research is not only relevant for Islamic educational institutions in Indonesia, but can also be a global reference in developing gender-responsive digital media literacy programs.

Conclusion and Recommendations

This study explores the empowerment of female students in Islamic higher education in Indonesia in the context of digital media literacy to address gender bias. Using design-based research (DBR) methods and quantitative descriptive analysis, this study produces a gender-responsive media literacy program and empowerment model that can be used as a global reference. The findings show a significant increase in female students' ability to identify gender bias after the intervention, with theoretical and practical contributions referring to the development of design principles for media literacy programs that can be applied in the context of Islamic education.

Limitations in the methodology used, especially in quantitative data analysis and the application of Design Based Research (DBR), indicate the need for further development in research design. This affects the validity and generalizability of the results. These implications indicate that future research needs to pay attention to the quality of the data and methods used so that the results obtained truly reflect the context being studied. In addition, there is a need to strengthen the methodological aspects in the field of education to provide a better understanding of the influence of gender bias in media literacy.

Recommendations for the development of the methodology for authors should recommend the use of a more integrated mixed approach, combining quantitative, qualitative, and participatory design methods.

This aims to gain a richer and deeper insight into the experiences of female students. For example, data collection using in-depth interviews with focus groups can help to gain diverse perspectives. The authors also need to emphasize the importance of piloting the research instrument with a similar population to increase the reliability and validity of the data collected.

Based on the identified weaknesses, especially in terms of practical recommendations for gender-sensitive media literacy programs, the authors should provide concrete guidance for educational institutions. This could include developing curricula that emphasize digital and gender literacy, training for educators on gender bias in media, and collaborating with local organizations for support and resources. Encouraging the active participation of female students in program formulation and evaluation is also essential for such initiatives to be relevant and well-received.

By formulating these implications and recommendations, this paper will not only be more comprehensive but also make a real contribution to improving practice and research in the context of Islamic higher education.

References

Ahmed, I., Ali, H., Ali, S., Van Woerden, S., Hanna-Amodio, A., Chen, K., Onitolo, E., & Gillespie, A. (2024). From digital voices to vaccine choices: increasing female vaccine acceptance in Sudan through social listening. Frontiers in Global Women's Health, 5. https://doi.org/10.3389/fgwh.2024.1288559

Bujang, A., Andrew, L., Johari, A., Ali, J. K., & bin Yacob, Y. (2024). Empowering Women through Digital Cooperation: A Case Study of Sarawak Women's Cooperatives and ICT Integration. International Journal of Academic Research in Business and Social Sciences. https://api.semanticscholar.org/CorpusID:272299268

Creswell, W. John & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. In Sage (Vol. 53, Issue 9).

Fajri, S. R., Fajri, N., Sarnita, F., Fitriani, H., Bago, A. S., Nitiasih, P. K., Riastini, P. N., Gede, I., & Sudatha, W. (2024). Digital Literacy Dan Cyber Socialization In The Context Of 21st Century Education: A Systematic Review. International Journal of Applied Science and Sustainable Development (IJASSD). https://api.semanticscholar.org/CorpusID:274123155

Fatahillah, W., Krishnani, R., & Luhuringbudi, T. (2024). Prediction of the Social Impact of Islamic Family Law on Women's Empowerment in Indonesia and Saudi Arabia: Analysis of Islamic Feminism, Structuralism, and Legal Socialization. ELS Journal on Interdisciplinary Studies in Humanities. https://api.semanticscholar.org/CorpusID:275093392

Firmansyah, R. (2024). Islam and Women's Emancipation: Initiating Progressive Steps Towards Muslim Gender Equality in Indonesia. Journal of Feminism and Gender Studies. https://api.semanticscholar.org/CorpusID:272121198

Franco, M., Falyoun, S. A., Fisher, K. E., Gaggi, O., Ghamri-Doudane, Y., Nashwan, A. J., Palazzi, C. E., & Shwamra, M. (2022). A Technology Exploration towards Trustable and Safe Use of Social Media for Vulnerable Women based on Islam and Arab Culture. ACM International Conference Proceeding Series. https://doi.org/10.1145/3524458.3547259

Harahap, R. N., Ramaniya, Y., Herlan, H., Alamri, A. R., & Fadri, Z. (2023). Social and Economic Impact Evaluation of Gender Based Community Empowerment. Alfuad: Jurnal Sosial Keagamaan, 7(1). https://doi.org/10.31958/jsk.v7i1.8678

Hernández-Ruiz, A., Cilia, Tortajada, I., Martínez-Martínez, I.-J., Pérez-Portabella-López, A., & Willem, C. (2024). Gender Bias, Stereotypes and Diversity on Digital Platforms. Profesional de La Información. https://api.semanticscholar.org/CorpusID:275381040

LiXi Wu, & Abd Rahman Fadzilah. (2024). New Media's Influence in Shaping Political Awareness, Attitudes and Behaviours: The Media Literacy as a Moderator and Peer Influence as a Mediator. International Journal of Advanced Research in Education and Society. https://api.semanticscholar.org/CorpusID:270897261

Muafiah, E., Mujib, A., & Arif, S. (2022). Development of Islamic Education Curriculum Instruments for Early Childhood through Semester Learning Plans (RPS) for Gender Responsive Islamic Courses. TADRIS: Jurnal Pendidikan Islam. https://api.semanticscholar.org/CorpusID:254817626

Nash, E. (2024). Review of Design-based Research in Education: Theory and Applications. Education Review. https://api.semanticscholar.org/CorpusID:273274118

Novianti, P. A., Hikmawan, R., & Fajrussalam, H. (2025). BEDIPOLI : Implementing an Educational Game Monopoly to Enhance Digital Ethics Among Elementary School Students in Purwakarta, Indonesia. Jurnal Paedagogy. https://api.semanticscholar.org/CorpusID:275797361

Nurfazri, M., Irwansyah, F. S., Lukman, F., Ruhullah, M. E., & Marinda, S. M. (2024). Digital Literacy in Education: An Analysis of Critical Thinking Culture for Preventing the Hoaxes. Jurnal Perspektif. https://api.semanticscholar.org/CorpusID:271422724

Rayaginansih, S. F., Cahyati, S., & Fahriza, I. (2024). THE IMPACT OF THE DIGITAL ERA ON THE MENTAL HEALTH OF GENERATION Z. Journal of Education and Counseling (JECO), 4(2), 95–102

Reeves, T. C., & Reeves, P. M. (2023). EDUCATIONAL DESIGN RESEARCH. In Mapping the Field of Adult and Continuing Education: An International Compendium: Volume 4: Inquiry and Influences. https://doi.org/10.4324/9781003445944-21

Reilly, C., & Reeves, T. C. (2024). Refining active learning design principles through design-based research. Active Learning in Higher Education, 25(1). https://doi.org/10.1177/14697874221096140

Reinmann, G. (2023). Design-Based Research (DBR) als Research Through Design (RTD). EDeR. Educational Design Research, 7(1). https://doi.org/10.15460/eder.7.1.2089

Reynolds, T. W., Biscaye, P. E., Leigh Anderson, C., O'Brien-Carelli, C., & Keel, J. (2023). Exploring the gender gap in mobile money awareness and use: evidence from eight low and middle income countries. Information Technology for Development, 29(2–3). https://doi.org/10.1080/02681102.2022.2073579

Shahzad, M. F., Xu, S., Lim, W. M., Yang, X., & Khan, Q. R. (2024). Artificial intelligence and social media on academic performance and mental well-being: Student perceptions of positive impact in the age of smart learning. Heliyon, 10(8). https://doi.org/10.1016/j.heliyon.2024.e29523

Sofa, W., & Eschachasthi, R. (2024). Digital Adoption and Women in the Labor Market: Indonesia's Case. Journal of Developing Economies, 9, 65–83. https://doi.org/10.20473/jde.v9i1.39475

Wulandari, D. A., Soeprobowati, T. R., & Nugraheni, D. M. K. (2024). Exploring the Impact of Age and Gender on Multi-Device Usage Patterns in Online Education. 2024 7th International Conference on Informatics and Computational Sciences (ICICoS), 301–305. https://doi.org/10.1109/ICICoS62600.2024.10636909

Zhang, H., Zhu, C., Sang, G., & Questier, F. (2023). Effects of digital media literacy course on primary school students' digital media literacy: an experimental study. International Journal of Technology and Design Education, 1–17. https://api.semanticscholar.org/CorpusID:257811366