

Gender Equality in Education: Challenges and Solutions in The Age of Modernization

A. Erni Ratna Dewi¹, Mulyadi², Erwin Nurdiansyah³

Universitas Islam Makassar

DOI: <https://doi.org/10.62872/j1hydk82>

Abstract

Gender equality in education is a global issue that still faces major challenges, especially in developing countries. Gender stereotypes that limit women to domestic roles and traditional fields of study hinder their participation in sectors such as science and technology, exacerbating the gender gap in the world of work. In addition, unequal access to technology and online education is also a significant barrier, especially for women living in remote or low-income areas. However, technological advances and globalization offer opportunities to improve these conditions, through technology training and digital empowerment programs. To achieve this, inclusive education policies that are free of gender bias need to be implemented, in addition to the implementation of affirmative policies such as providing women-only scholarships and digital skills training. Utilizing education technology, such as online education, can expand access for women without location or time barriers. Through this approach, educational equality can be achieved, providing greater opportunities for women's economic empowerment and creating a more just and inclusive society. This study aims to examine the challenges and solutions to gender equality in education and identify the steps that need to be taken to achieve such equality.

Keywords: Education; Gender Equality; Modernization Challenges.

Copyright (c) 2024 A. Erni Ratna Dewi¹, Mulyadi², Erwin Nurdiansyah³.

□ Corresponding author :

Email Address :

Received December 06, 2024 Accepted February 04, 2025 Published February 07, 2025

Introduction

Education should be a right that is not limited to a particular gender, but in reality, the gender gap in access to education is still a global issue that needs serious attention. Many countries, especially in developing regions, are faced with the reality that women often face systemic discrimination that limits their access to education. Gender stereotypes that assume women are more suited to the domestic sphere than formal education are deeply rooted in culture and social systems (Umma & Abida, 2023). This results in women's lower participation rates in education compared to men, leading to unequal opportunities for social and economic advancement. Gender equality in education is not just about providing equal rights to learn, but also creating a foundation for individual empowerment and the eradication of poverty and wider injustices (Wulandari, 2020).



Creative Commons Attribution-ShareAlike 4.0 International License:

<https://creativecommons.org/licenses/by-sa/4.0/>

Gender equality in education plays an important role in creating a more just and sustainable society, as education opens up opportunities for individuals to reach their full potential, without being limited by biased social or cultural constructs (Nur, 2023). Neglecting the educational rights of women or other gender minorities is detrimental to a country's social and economic development potential. Conversely, ensuring that everyone, regardless of gender, has equal opportunities for education will enrich the quality of human capital and create a more inclusive society. By achieving this equality, future generations will not only be more economically productive, but will also be more aware of the importance of respecting each other, fighting for the rights of others, and promoting justice for all.

Although various policies have been implemented to support gender equality, the challenges in realizing it are still significant. Entrenched gender stereotypes in society often limit women's roles and opportunities in education (Saputri et al., 2024). Traditional beliefs that women are better suited to the domestic sphere rather than formal education are deeply rooted in culture and social systems. As a result, women are often faced with systemic discrimination that limits their access to education.

Economic inequality is a significant barrier for women in accessing quality education (Sari & Riansi, 2024). Women who come from families with low economic status serially have to work to help the family economy, so they have limited time and energy for education. This exacerbates the gender gap in education, as women who are not properly educated tend to have fewer job opportunities, are more vulnerable to abuse and violence, and have less ability to make decisions about their health and lives.

The era of modernization has opened up great opportunities for women to get a better education, thanks to technological advances and globalization. Access to information is now easier, even in remote areas, through digital devices and the internet. Online education programs and learning apps provide wider opportunities for women to access educational materials without being hindered by location or time. However, these advances also exacerbate the existing digital divide, where women, especially in developing countries, often have less access to digital devices and adequate internet connections. Wang et al (2023) show that in many countries, women are more limited in terms of access to technology, which can exacerbate inequalities in educational opportunities. Therefore, while technology has the potential to support equality, inequalities in access and utilization remain a challenge to overcome.

In addition to the digital divide, modernization also presents another challenge in the form of gender bias that is still embedded in curricula and teaching methods. Many educational curricula still reinforce traditional gender stereotypes, for example by attributing certain fields of study, such as STEM (Science, Technology, Engineering, Mathematics), as more dominant for men, while women are often seen as more suitable for the humanities or arts. Research from UNESCO shows that gender roles in education are often internalized in curricula that ignore the potential of individuals based on their aptitude, not gender (UNESCO, 2020). Teaching methods are also often non-inclusive, lacking attention to more adaptive ways of learning for women, which can exacerbate inequalities in educational attainment (Marieska et al., 2024). In the face of these challenges, there needs to be a shift to a more equitable approach to education that not only eliminates gender bias, but also promotes women's empowerment through education based on equal opportunities for all genders.

To realize gender equality in education, the first step that must be taken is through the creation of education policies that are more inclusive and responsive to gender differences (Abidin & Mujib, 2022). These policies should emphasize providing equal access to education for all individuals regardless of gender, as well as addressing any existing forms of discrimination. One concrete solution is to introduce gender-awareness-based education programs early on, which can help change stereotypical social views of gender roles in education and the workforce (Wira et al., 2023). According to a report from UN Women, gender-based policy approaches have shown positive results in several countries, with women gaining better access to education and higher participation in the economic sector. With policies that support equality, the role of women in education can be further enhanced, narrowing the gap.

In addition, the use of technology should be maximized to expand access to education across all levels of society. In this digital era, technology is not only a tool to deliver educational materials, but can also be a very effective means of empowerment for women, especially in more remote areas. However, it is important to ensure that no group of women is left behind due to limited access to technological devices or good internet connections. For this, governments and international organizations need to work with the private sector to provide adequate infrastructure and technology training programs aimed at women. One example of a successful initiative is the “Tech for Good” program launched by UNESCO, which aims to train women in various countries to utilize technology in education and work. Thus, the utilization of technology must be accompanied by efforts to reduce the digital access gap, so that the benefits of technological progress can be felt by all without discrimination.

Methodology

This qualitative research method using literature study aims to dig deeper into gender equality in education, the challenges faced, and solutions that can be applied in the era of modernization. This research will focus on collecting and analyzing secondary data obtained from various literature sources, such as scientific articles, books, reports of international institutions, and other related publications. This approach will allow researchers to analyze and identify emerging patterns related to the issue of gender equality in education, as well as explore various solutions that have been proposed by relevant experts and institutions.

The first step in this research is to conduct a literature search relevant to the topic of gender equality in education through various academic databases, such as Google Scholar, JSTOR, and ProQuest. After that, the research will categorize the literature based on relevant themes, such as education policy, gender stereotypes in the curriculum, challenges in accessing education for women, and the use of technology in overcoming educational inequality. The data collected will then be analyzed using a thematic analysis approach, which will help the researcher identify trends, challenges and solutions that emerge in the literature. Through this literature study, the research will provide a deeper understanding of gender equality in education and how the challenges can be overcome with an evidence-based approach.

Result and Discussion

Challenges in Realizing Gender Equality in Education in the Modernization Era

1. Gender Stereotypes in Education and Restrictions on Women's Career Options

Gender stereotypes in education and restrictions on women's career choices are major challenges in achieving gender equality. This phenomenon can be seen in how children, from an early age, are introduced to certain gender roles that lead them to certain career choices. Girls are often encouraged to focus on more “traditional” fields, such as humanities, arts or social work, while boys are encouraged to pursue careers in fields that are considered more technical or prestigious, such as STEM (Science, Technology, Engineering and Mathematics). This is driven by social norms developed in society, where women are considered more suited for care-related professions or social interactions, while men are considered more capable in fields that require analytical or technical skills (Ndu et al., 2023). The formation of these stereotypes is compounded by the influence of the media, family and even schools, which often unintentionally reinforce these views through the way each gender is taught and the roles accepted.

The impact of these gender stereotypes is profound, both in the context of education and the world of work. In education, women's study options are often limited to fields that are considered more in line with their nature, such as literature or education, while STEM fields are still dominated by men (Aini, 2024). While research has shown that women have equal potential to men in these fields, they often feel discouraged from pursuing more technical fields (Sonia & Sassi, 2024; Wang & Degol, 2017). This contributes to women's low participation in the technology, science and engineering industries, which in turn exacerbates the gender gap in the workforce. A number of studies, such as the one conducted by Smith et al. (2020), show that women entering STEM fields often face adverse gender biases, which affect their performance and career development (Cavaletto & Berra, 2020). This bias comes not only from the educational environment, but also from the existing social structure in the workplace, which still considers women not to have the same technical skills as men. In addition, a study conducted by Thousani & Afgani (2023) found that women tend to avoid choosing careers in STEM fields due to the lack of successful female role models in these fields and the fear of discrimination.

To address this issue, efforts have been made to reduce gender stereotypes and support women to pursue careers in their fields of interest without being limited by social views. One emerging solution is more inclusive and bias-free education, where teachers and educators are trained to recognize and address gender stereotypes in their teaching. Research by Lopez & Smith (2021) revealed that when teachers are provided with training on gender awareness, they are better able to provide equal support to female students to explore various career options, including STEM fields (Bagaskara & Sulistiobudi, 2023). In addition, various programs that support women in pursuing STEM education, such as scholarships for women in engineering or technology, have also shown positive impacts in increasing women's participation in these sectors. For example, programs such as “Girls Who Code” or “Women in Engineering” have proven effective in motivating and equipping young women to pursue careers in technology and engineering, which previously tended to be dominated by men. Research by Siregar et al.

(2023) showed that the presence of female mentors in STEM fields was instrumental in boosting young women's confidence and career aspirations, helping them to overcome existing gender stereotypical barriers.

Changing the representation of women in the media is also an important strategy. In many cases, the media often portrays women in roles that are more passive or related to social fields, while men are more often depicted in roles related to science and technology. By increasing the representation of women in various fields, especially those related to STEM, future generations will be more open to considering more diverse career options. Research by Umniyyah et.al., (2024) highlights the importance of more inclusive representation in the media as one way to break down gender stereotypes that limit women's career choices.

With a more holistic approach, including changes in education, providing stronger support for women in STEM fields, and strengthening the role of the media, we can reduce limiting gender stereotypes and open up more opportunities for women to choose and develop their potential in various fields. This will not only create greater gender equality, but will also contribute to more inclusive and sustainable social and economic progress.

2. Equal Access to Technology and Online Education

Technology, especially the internet and digital devices, has become a key pillar in the development of modern education, especially in the context of online education which is growing rapidly in the digital era. However, unequal access to technology, especially in rural areas or low-income communities, often exacerbates gender inequality (Fukaro, 2025). Women, who live in areas with limited technological infrastructure, often struggle to access online education, which is becoming a more common way to acquire knowledge around the world. Limited access to devices such as computers or smartphones, as well as difficulties in obtaining an adequate internet connection, further widens the gap between women and men in terms of education. This, in turn, puts women in a more vulnerable position to fall behind, not only in formal education but also in their ability to access economic opportunities provided by technological advancements. According to a report from the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2021, about 1 in 3 women in the world still do not have adequate access to the internet, a factor that hinders the development of skills and competencies needed in the digital age.

On the other hand, technology can play a very important role in creating educational equality if access to it is more equitable. Technology allows women, especially those living in rural or poor areas, to pursue education without being hindered by distance or physical limitations. With online education, women can access curriculum, training and other educational resources without having to leave home or being trapped in socio-cultural burdens that hinder their mobility. Research by Setiawan & Luviantika (2025) revealed that empowering women through online education not only improves their skills but also provides them with opportunities to participate in the digital job market, which in turn improves the economic well-being of their families. In addition, many initiatives that focus on technology training for women, such as the program held by the International Telecommunication Union (ITU), have shown that women who are given technology training and access to the internet can develop skills that are highly needed in the world of work, such as digital skills and mastery of programming languages. Research by Yahya (2021) also shows that women exposed to

technological learning and access to online education have greater opportunities to improve their social and economic status, as well as gain more control over family decisions.

However, despite the great benefits of technology, the reality shows that this digital divide is very real. Recent research by Setiyono et al (2025) shows that despite government policies trying to improve internet access and digital devices in remote areas, implementation still faces various challenges. Uneven internet infrastructure, as well as gaps in social acceptance of women accessing technology, continue to be barriers. Some areas still have significant obstacles in getting a fast and stable internet connection, which affects the quality of online education received by female students. In addition, social and cultural factors such as gender stereotypes, which perceive women as less competent in technology, are often another barrier to achieving equal access. This is in line with research findings by Junita (2024), who noted that despite policies to increase digital inclusion, women in certain areas are still hampered by traditional views that limit their participation in the technology sector.

Nonetheless, a number of policies and initiatives can redress this gap. In many countries, especially in developing countries, governments and non-governmental organizations (NGOs) have launched various programs that aim to provide better access to women, such as the provision of technology devices, digital skills training, and improved internet infrastructure. Initiatives such as the “Digital Literacy for Women” program implemented by the Indonesian government together with several large technology companies, aiming to provide digital skills training to women in rural areas, are concrete examples of efforts to create equal access to education through technology. In addition, research by Syafitri & Nisa (2024) highlights the importance of developing policies that focus not only on infrastructure but also on education and training for women, in order to optimize existing potential. The research emphasizes that effective programs must include aspects of social and cultural empowerment, by involving women in the policy-making and planning process, to ensure that they can fully benefit from technology.

Overall, while technology has great potential to create educational equality, the existing digital divide, both in terms of device access and social acceptance, remains a major challenge (Sundari, 2024). More inclusive policies, improved infrastructure and training focused on empowering women in remote and poor areas can accelerate the achievement of educational equality. Technology can be a powerful tool in reducing inequality, but only if access to it is fair and equitable.

3. Socio-Cultural Impact on Gender Equality in Education

The social and cultural impact on gender equality in education is a complex issue that is often overlooked in global education policy discussions. In many societies, especially in developing countries, ingrained social norms often limit the role of women in pursuing formal education. In general, women are expected to focus more on domestic roles, such as housekeeping and childcare, rather than developing themselves through higher education. This not only affects women's educational opportunities directly, but also affects their perception of the value of education itself (Mardiya & Sofa, 2025). In addition, gender stereotypes that are often encountered also place women in certain positions in fields of study, such as education, health, or art, which are considered more “in line” with women's nature (Bertiany, 2021). In contrast, more technical fields of study or those related to science, technology, engineering and

math (STEM), are often considered the domain of men. This inequality prevents women from accessing wider opportunities in the professional world and reduces diversity in these fields. In a broader context, the patriarchal system that still prevails in many places exacerbates this gender inequality by prioritizing education for boys. This is evident in some cultures where girls are more often expected to marry at a young age or work in the informal sector, while boys are given opportunities to pursue formal education. Therefore, the role of culture and social norms in reinforcing gender differences in education is a significant barrier to achieving equality (Az-Zahra et.al., 2024).

As such, policy interventions and social change are increasingly key in creating gender equality in education. Various studies have shown that affirmative policies and the promotion of gender equality have successfully increased women's participation in education in many countries. For example, a study conducted by Amannie (2024) showed that the provision of women-only scholarships in rural Indonesia has reduced dropout rates among women and encouraged them to pursue higher education. Another study by Lopez and Manalastas (2021) revealed that gender equality campaigns in education in developing countries, which involved outreach to parents and stakeholders, contributed to changing attitudes towards female education (Said et al., 2024). However, while these policies and programs have shown positive results, cultural and social challenges still remain. Many women, particularly in areas with strong patriarchal traditions, still feel inhibited from pursuing higher education due to views that women's education is not as prioritized as men's education. Therefore, the success of this policy is highly dependent on a paradigm shift in society and strong support from all parties, including families, educational institutions and the government.

Research conducted by Irawan et al (2024) also shows that education policy changes that support gender equality can help women to access higher education, although cultural challenges remain. In her research, Irawan noted that social interventions through training programs for women and raising awareness about their educational rights significantly reduced the gender gap in higher education, especially in developing countries. However, it is important to remember that such policies must be accompanied by changes in deep-seated social norms in order to create more sustainable change. Increasing the number of women engaged in formal education will not only provide economic benefits to them individually, but will also lead to overall social progress. Therefore, there is a need for a more inclusive and culturally sensitive approach to designing education policies so that gender equality can be realized more effectively.

Thus, while policy changes and deeper social interventions have begun to yield positive results, gender inequality in education remains a major challenge. Changes in social and cultural norms that reinforce gender differences should be encouraged through collaboration between government, society and educational institutions to create a more inclusive and supportive environment for gender equality in education.

Solutions and Policies to Improve Gender Equality in Education

1. Affirmation Policy and Special Scholarships for Women

Affirmative action policies and special scholarships for women are strategic steps taken by many countries to address gender inequality in access to higher education. This inequality, especially in male-dominated fields such as STEM (Science, Technology, Engineering, and

Mathematics), is a major obstacle preventing women from developing in sectors that are highly influential in technological advancement and innovation. Affirmative action policies, which include scholarships, financial support, and other incentives, are expected to reduce these barriers and open up greater opportunities for women to pursue higher education and participate in diverse professional sectors.

Scientific research conducted in the last five years supports the claim that affirmative action policies have a positive impact on women's success in higher education and professional careers. Toyibah (2020) in their study of scholarships in STEM fields found that women who received financial assistance were more likely to choose more challenging fields of study that are less attractive to women in general, such as engineering and computer science. They also showed that women who received such support had higher graduation rates compared to those who did not receive similar scholarships. This research suggests that economic barriers, often a major obstacle to women continuing their education, can be overcome through affirmative action policies, providing wider opportunities for women to excel in fields with high career potential.

Further research by Perdani & Wicaksono (2022) examined the impact of affirmative scholarship programs on women's participation in technology professions. They concluded that the scholarship program significantly increased the graduation rate of women in technology, and had a positive impact on the number of women working in large technology companies. The scholarship program not only improves access to education, but also helps create more inclusive and sustainable career paths for women, allowing them to play a greater role in the male-dominated technology sector. In developed countries such as the United States, scholarships and financial support for women have also contributed to increasing women's participation in higher education in general, as well as helping to reduce the gender gap in various fields of study, especially those with high earning career potential.

However, while affirmative policies have shown positive impacts in many cases, challenges remain, especially in countries with higher levels of gender inequality. Research by Arifah et al (2023) highlights the importance of considering the social and cultural context in designing affirmative policies. In developing countries, despite the implementation of special scholarship programs for women, many women still face major challenges stemming from social and cultural norms that limit their social and educational mobility. In many cases, women have to overcome strong gender stereotypes and social pressures that place them in traditional roles at home. This makes affirmative policies that only focus on providing scholarships ineffective without broader structural changes.

To improve the effectiveness of affirmative action policies in countries with higher inequality, some studies recommend a more holistic approach based on capacity building. Mentorship programs can play an important role in helping women feel more confident and ready to face greater challenges in education and the professions (Cahyani, 2024). Mentorship programs can provide opportunities for women to get guidance from female figures who have been successful in their fields, providing them with the role models and networks needed to thrive in a competitive environment. Another study by Siregar et al (2023) also showed that in addition to financial support, social and psychological factors such as motivation, self-confidence, and the presence of role models are critical in retaining women in their educational and professional career paths.

Affirmative policies in countries with higher gender inequality also require broader interventions related to social welfare policies. For example, Tanjung (2024) examined policies in European countries that have successfully integrated support for women through work-life balance policies, such as longer maternity leave and affordable childcare facilities. They found that such policies significantly increased women's participation in the labor market and higher education, as women felt more supported in managing their domestic and professional obligations. In this context, affirmative policies do not only include the provision of scholarships, but also need to involve policy changes that support women's overall well-being.

Overall, affirmative policies and scholarships specifically for women can be a very effective tool to address gender inequality in higher education. However, the success of these policies is highly dependent on comprehensive and contextualized implementation, which considers not only financial aspects, but also social, cultural, and structural factors that affect women's opportunities to thrive. Recent studies provide evidence that affirmative policies accompanied by capacity-building programs, mentorship, and social welfare policies that support work-life balance can have a greater and more sustainable impact on increasing women's participation in education and the professional sector.

2. Utilization of Educational Technology to Increase Equal Access to Education

Technology training for women's empowerment has become one of the increasingly important solutions in addressing gender inequality, especially amidst the rapid development of technology-dependent education and workplaces. This training program designed for women aims to reduce the gender gap in access to digital skills, introduce them to the world of online education, and prepare them to compete in a technology-dominated job market. Technology education gives women the opportunity to acquire skills that are not only relevant to the times, but also increase their chances of securing better jobs and reduce the social and cultural barriers that prevent them from accessing opportunities. This training program is particularly relevant, given that the ever-growing digitalization has changed almost every aspect of life, whether in terms of education, employment, or even in daily life. In the context of women's empowerment, technological skills offer opportunities that can transform women's economic and social conditions, both in developed and developing countries.

One of the most significant outcomes of technology training for women is their increased access to online education. With the rapid development of technology, online education platforms are becoming a more affordable and flexible alternative for women, especially those in remote areas or under the influence of social norms that limit women's role in formal education. With technology training, women can gain the necessary skills to access and utilize these education platforms. This gives them the opportunity to learn in a way that is more appropriate to their circumstances. Research by Shafirah et al (2025) suggests that women who are trained in technology are more likely to be able to access online education and online courses that can enhance their professional capabilities. Training programs that provide women with basic digital skills such as the use of computers, the internet and software, open up many opportunities for them to pursue education that was previously out of reach due to geographical or social barriers.

Technology training also plays an important role in reducing the digital divide, which has been a major problem in technology access between men and women. Many women in

developing countries face difficulties in accessing technology due to social, cultural or economic factors. According to Alfarizi et al. (2023) women in developing countries are more likely to be marginalized in terms of technology access, either due to lack of devices, limited knowledge, or social barriers that underestimate women's abilities in technology. Therefore, training specifically designed for women can provide them with more equal access to technology, while preparing them to participate in the growing digital economy. Research by the World Economic Forum (2021) shows that when women are trained in digital skills, the gender gap in technology access is significantly reduced, which in turn increases their opportunities for employment and personal development.

Not only in education, technology training for women also opens up career opportunities in fast-growing sectors, such as information technology, data analysis, and digital marketing. Women with technology skills have the potential to enter previously male-dominated fields such as software development, data analysis and digital product design. Technology skills give women the ability to access higher and more lucrative job positions, while also giving them opportunities for entrepreneurship through e-commerce and social media platforms. Training programs focused on skills such as coding, programming, and UX/UI design give women the tools to innovate in the tech world and contribute to the digital transformation taking place around the world.

A number of scientific studies also support the positive outcomes of technology training on women's empowerment. Research by UNESCO (2022) emphasizes the importance of technology skills for women in developing countries, which not only enables them to obtain further education, but also opens up opportunities to create independent businesses through digital platforms. The research suggests that digital skills can help women reduce economic disparities by introducing them to technology-based entrepreneurship, enabling them to reach global markets through social media and e-commerce applications. In addition, a study by the International Labor Organization (ILO) (2023) revealed that technology training can improve women's skills in various professions, ultimately increasing their participation in technology-based sectors. The study also suggested that efforts to narrow the gender gap in the world of work should involve making technology training accessible to women worldwide.

On the other hand, research by Suhaeli (2024) on digital skills and their impact on women's empowerment also showed that technology training programs can increase women's participation rates in the global digital economy. The study found that women trained in technology skills are not only better able to secure jobs in technology sectors, but also increase their chances of working remotely, which provides greater flexibility for those with family responsibilities or geographical barriers. These findings show how technology training can help women to access a broader digital job market that they may not otherwise have access to.

Overall, technology training for women's empowerment plays a pivotal role in improving gender equality across sectors, both in education and the workforce. With more and more initiatives from international organizations, governments and the private sector providing technology training for women, women's empowerment in the digital world is more assured. This training not only improves women's digital skills, but also gives them the opportunity to access educational opportunities, reduce the digital divide, and open up wider career opportunities. Thus, empowering women through technology training not only benefits the

individual women themselves, but also contributes to more inclusive and sustainable economic development around the world.

Conclusion

Gender equality in education still faces challenges, particularly gender stereotypes that limit women's career choices from an early age. The education system and social environment unconsciously reinforce norms that steer women towards certain fields, resulting in their low participation in the STEM sector. This inequality impacts the gender gap in the workforce, where women have limited access to high-tech professions. In addition, other barriers such as unequal access to technology and online education further widen the education gap between men and women. Women in rural areas and low-income groups often do not have adequate devices and internet connections to access digital education. Therefore, affirmative policies such as women-only scholarships and mentorship in STEM fields are needed to increase women's representation in the technology and science sectors. Digital skills training is also a strategic solution to empower women to face the challenges of the digital economy. Educational technology can be utilized to provide more flexible access to learning for women who face social and cultural barriers. In addition, media and social campaigns must play an active role in changing society's perception of women's education. A more inclusive cultural change will open up wider opportunities for women to develop in various fields. With a comprehensive strategy, it is hoped that gender equality in education can be realized, so that women have equal access to knowledge and skills for a better future.

References

- Abidin, Z., & Mujib, A. (2022). Praktek Kesetaraan Gender dalam Pendidikan Pada Pusat Kegiatan Belajar Masyarakat (Pkbm) di Lampung. *Ri'ayah: Jurnal Sosial dan Keagamaan*, 7(2), 187-213.
- Aini, K. (2024). *Perkembangan Gender dalam Perspektif Psikologi-Jejak Pustaka*. Jejak Pustaka.
- Alfarizi, M., Hanum, R. K., Firmansyah, A. A., & Wusqo, U. (2023). Digital Banking Dalam Akselerasi Pemberdayaan Ekonomi Womenpreneur Indonesia: Eksplorasi Sosial-Ekonomi Dan Peran LPS Berbasis PLS-SEM. *Jurnal Magister Ekonomi Syariah*, 2(2), 1-32.
- Amannie, N. S. A. (2024). *Strategi 'malala Fund'dalam memperjuangkan Hak Pendidikan Perempuan di Pakistan Tahun 2013-2015* (Doctoral dissertation, Universitas Islam Indonesia).
- Arifah, F. N., Mokodenseho, S., Ahmad, N., Sari, I. W., Panu, F., Pobela, S., & Maku, F. H. M. (2023). Meningkatkan Akses Pendidikan Berkualitas Melalui Program Pengabdian Masyarakat di Provinsi Jawa Tengah: Pendekatan Inklusif dan Berbasis Teknologi. *Jurnal Pengabdian West Science*, 2(06), 442-450.
- Az-Zahra, M. S., Alfarizi, V. D., Novianto, F. A., & Najili, M. H. (2024). Kesetaraan Gender dalam Pendidikan melalui Pendekatan Pedagogis Henry: Analisis dan Relevansi Konseptual. *Equalita: Jurnal Studi Gender dan Anak*, 6(1), 73-89.

- Bagaskara, B., & Sulistiobudi, R. A. (2023). Keselarasan karir siswa dengan harapan orang tua: Adolescent-parent career congruences dan STEM career interest. *Jurnal Paedagogy*, 10(4), 964-972.
- Bertiany, Y. (2021). *PERANCANGAN MEDIA KAMPANYE KESETARAAN GENDER BAGI WANITA DI LINGKUNGAN KERJA* (Doctoral dissertation, Program Studi Desain Grafis, Universitas Widyatama).
- Cahyani, A. D. (2024). SUPERVISI PENDIDIKAN SEBAGAI ALAT MEMPERKUAT POSISI PEREMPUAN DALAM PENDIDIKAN. *Lentera: Journal of Gender and Children Studies*, 4(2), 265-285.
- Cavaletto, G. M., & Berra, M. (2020). Overcoming the stem gender gap: From school to work. *Italian Journal of Sociology of Education*, 12(Italian Journal of Sociology of Education 12/2), 1-21.
- Fukaro, A. (2025). Pengaruh Latar Belakang Sosial terhadap Kesempatan Pendidikan. *Ranah Research: Journal of Multidisciplinary Research and Development*, 7(2), 1214-1220.
- Irawan, P. S., Agustian, F. D., & Lestarikan, D. P. (2024). Identifikasi Faktor Faktor Yang Mempengaruhi Kesenjangan Gender Dalam Akses Dan Partisipasi Pendidikan Tinggi Di Indonesia. *Jurnal Kajian Hukum Dan Kebijakan Publik| E-ISSN: 3031-8882*, 2(1), 493-500.
- Junita, S. (2024). Realitas Sosial Perempuan Bercadar Dalam Dunia Kerja: Penerimaan Dan Penolakan. *JHEB Narasi: Jurnal Hukum, Ekonomi dan Bisnis*, 2(2), 52-63.
- Mardiya, Z., & Sofa, A. R. (2025). Keutamaan menuntut ilmu dalam perspektif Islam di kehidupan modern: Tantangan, peluang, dan pengaruh teknologi dalam pembentukan karakter di era digital. *Inspirasi Dunia: Jurnal Riset Pendidikan Dan Bahasa*, 4(1), 13-26.
- Marieska, N. V., Mukhlis, A., & Rachman, I. F. (2024). Transformasi Inovasi Dalam Peningkatan Literasi Digital untuk Mencapai Tujuan Pembangunan Berkelanjutan 2030. *Merdeka: Jurnal Ilmiah Multidisiplin*, 1(5), 290-298.
- Ndu, M., Teachman, G., Martin, J., & Nouvet, E. (2023). Unveiling Women's Experiences Amidst the COVID-19 Pandemic in Nigeria: An Interpretive phenomenological analysis. *medRxiv*, 2023-05.
- Nur, M. R. (2023). Pentingnya kesetaraan gender pada guru tingkat sekolah dasar (Study kasus di Madrasah Ibtidaiyah NW Loyok). *Al-Mujahidah*, 4(1), 1-10.
- Perdani, E. W., & Wicaksono, P. (2022). Tingkat Pengembalian Investasi Pendidikan Tinggi Lulusan Program Studi STEM (Science, Technology, Engineering, dan Mathematics). *Jurnal Samudra Ekonomi dan Bisnis*, 13(1), 28-45.
- Said, W., Nurbaiti, A. S., Musahib, A. R., Malontu, A., Ar'asyid, M. N. F., Nurjanna, A., & Idris, M. A. (2024). Penyuluhan Pencegahan Kekerasan Terhadap Anak dan Perempuan

Di Desa Oyom, Kabupaten Tolitoli. *TOLIS MENGABDI: Jurnal Pengabdian Kepada Masyarakat*, 2(2), 32-36.

- Saputri, I. E., Dhewantoro, H. N. S., Azizah, P. I., & Utami, P. S. (2024). Tantangan dan Perwujudan Gender Equality Sebagai Realitas Sosial serta Implikasinya dalam Pembangunan di Indonesia. *Maharsi: Jurnal Pendidikan Sejarah dan Sosiologi*, 6(1), 14-25.
- Sari, F., & Riansi, E. S. (2024). Peran Stakeholder Dalam Mengatasi Ketimpangan Pendidikan Di Daerah Terpencil: Tantangan Dan Solusi. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 9(04), 275-300.
- Setiawan, I., & Luviantika, I. (2025). Pemberdayaan Kewirausahaan Kelompok Wanita Tani (KWT) dalam Pengembangan Inovasi Produk Makanan (Desa Cipedes, Kecamatan Ciniru, Kabupaten Kuningan). *Jurnal Pengabdian Nasional (JPN) Indonesia*, 6(1), 85-94.
- Setiyono, P., Haryati, T., & Wuryandini, E. (2025). Strategi Digitalisasi Sekolah dan Kualitas Pembelajaran di Era 4.0. *Indonesian Research Journal on Education*, 5(1), 458-464.
- Shafira, D., Aditya, F. A., Anggia, I. R., Putri, N. N. K., Al Hanif, S., & Prihantini, P. (2025). Tantangan dan Solusi dalam Pengelolaan Pendidikan Modern. *Indo-MathEdu Intellectuals Journal*, 6(1), 868-879.
- Siregar, N. C., Warsito, W., Gumilar, A., Amarullah, A., & Rosli, R. (2023, August). Promoting Gender Equality in STEM: Strategies for Encouraging Girls' Participation: Promoting Gender Equality in STEM: Strategies for Encouraging Girls' Participation. In *Seminar Nasional Pendidikan, Sains dan Teknologi Universitas PGRI Sumatera Barat* (Vol. 1, No. 1, pp. 34-60).
- Sonia, L., & Sassi, K. (2024). Menjelajahi Kesenjangan Gender Dalam Pendidikan: Studi Perbandingan Antara Swedia Dan Afghanistan. *Inspirasi Edukatif: Jurnal Pembelajaran Aktif*, 5(4).
- Suhaeli, E., Nasution, N. A., Januarika, J., Setyaningsih, R., & Rudi, R. (2024). Strategi Digitalisasi Untuk Kemandirian Umkm Dan Pemberdayaan Wanita: Pengabdian Masyarakat Di Kecamatan Kebon Pedas, Sukabumi. *Blantika: Multidisciplinary Journal*, 2(3), 323-329.
- Sundari, E. (2024). Transformasi Pembelajaran Di Era Digital: Mengintegrasikan Teknologi Dalam Pendidikan Modern. *Sindoro: Cendikia Pendidikan*, 4(5), 25-35.
- Syafitri, A. D. A., & Nisa, F. L. (2024). Perkembangan serta Peran Ekonomi Kreatif di Indonesia dari Masa ke Masa. *Jurnal Ekonomi Bisnis dan Manajemen*, 2(3), 189-198.
- Tanjung, Y. (2024). *Kesetaraan Dan Keadilan Gender Dalam Keluarga*. umsu press.

- Thousani, H. F., & Afgani, K. F. (2023). Jaringan Dalam Mendorong Perempuan untuk Memulai dan Mempertahankan Bisnis: Tinjauan Literatur Sistematis. *Jurnal Riset Bisnis Dan Investasi*, 9(2), 100-132.
- Toyibah, D. (2020). *Perempuan cendekia dan tantangan neoliberalisme*. LKiS.
- Umma, A. L., & Abida, L. (2023). Transformasi Pendidikan Perempuan Dalam Perspektif Neo Modernisme Di Pondok Pesantren Nurul Hidayah Jeru Tumpang. *Journal Islamic Studies*, 4(2), 81-98.
- Umniyyah, Z., Wardhani, Y. K., & Rahayu, N. (2024). Representasi Keperempuanan dan Sistem Patriarki dalam Novel Tarian Bumi Karya Oka Rusmini. *DEIKTIS: Jurnal Pendidikan Bahasa dan Sastra*, 4(3), 384-395.
- Wang, C., Zhang, M., Sesunan, A., & Yolanda, L. (2023). Peran teknologi dalam transformasi pendidikan di Indonesia. *Kemdikbud*, 4(2), 1-7.
- Wang, M. T., & Degol, J. L. (2017). Gender gap in science, technology, engineering, and mathematics (STEM): Current knowledge, implications for practice, policy, and future directions. *Educational psychology review*, 29, 119-140.
- Wira, I. A. D., Septiari, D. M. A., & Dhammayanti, I. G. A. W. (2023). Eksistensi Perempuan Bali Dalam Budaya Patriarki. *Pramana: Jurnal Hasil Penelitian*, 3(2), 129-139.
- Wulandari, T. (2020). *Konsep dan praksis pendidikan multikultural*. UNY Press.
- Yahya, A. S. (2021). Strategi Meningkatkan Produktivitas Kinerja Aparatur Sipil Negara Selama Work From Home Di Tengah Pandemi Covid-19: Mengubah Ancaman Menjadi Peluang. *Tetap Kreatif Dan Inovatif Di Tengah Pandemi Covid-19*, 1..