

Achieving gender equity in present-day educational settings



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Abstract In light of the evolving conceptualization of gender and its incorporation into educational frameworks, the effective integration of gender-related aspects into the educational sphere remains a pertinent concern. Given the prevalence of societal stereotypes associated with gender-specific professions, a comprehensive examination of STEM (Science, Technology, Engineering, and Mathematics) education within the contemporary educational landscape becomes crucial. The primary objective of this study is to scrutinize gender equality in modern education by delving into the gender legislation that substantively operationalizes these principles within the educational framework. Utilizing both general scientific and specialized scientific methodologies, this article conducts a historiographical analysis of the subject under investigation. The findings of this analysis elucidate that the gender component in contemporary education necessitates an expanded scientific discourse, particularly in the context of evaluating the European experience in the implementation of gender equality within the educational domain. The article undertakes an examination of the evolution of gender equality within international organizations. The analysis discloses that UNESCO's involvement in the educational sphere encompasses tasks related to the application of gender concepts in modern education, specifically about issues such as access to education, instructional content, teaching methodologies, and the evaluation of learning outcomes. Emphasis within the study is devoted to the exploration of gender equality within national education systems through the scrutiny of legal enactments. A distinct facet of the investigation involves the exploration of gender equality within contemporary education, with a focused inquiry into the domain of STEM education, currently undergoing active implementation.

Keywords: equal rights, sex, development, discrimination, education

1. Introduction

Up until the 1970s, the consideration of gender was infrequently incorporated into global education and international development policies. The pivotal shift commenced with the First World Conference on Women in Mexico City in 1975, followed by the Beijing Declaration and Platform for Action in 1995, marking women as a significant force in global development policy and practice (Monkman, 2021).

Over time, the inclusion of gender in global education policy has evolved into a primary concern and has gained prominence in the endeavors of prominent global organizations. Notably, the United Nations Sustainable Development Goals delineate equal opportunities for men and women across all facets of life, alongside the eradication of all conceivable forms of discrimination, exemplifying a crucial objective.

In the twenty-first century, the mitigation of gender inequality and the eradication of extant forms of discrimination, particularly within the realm of education, have emerged as prominent indicators of democratic societal progress. Concurrently, numerous countries worldwide, Ukraine included, contend with challenges related to gender equality across various domains. This predicament exerts a deleterious influence on societal advancement, frequently giving rise to detrimental processes that impede social cohesion, thereby adversely impacting sustainable human development. The matter of gender equality persists as a pressing concern within the realm of education. At the state level, the enactment of gender policy in contemporary education is grounded in diverse international normative legal acts ratified by Ukraine, alongside national normative legal documents.

The objective of the study is to identify and analyze the issue of gender equality in contemporary education. It is imperative to ascertain the methods employed in addressing gender inequality and discrimination within the educational sphere and to examine how these are reflected in state educational policy.



An examination of recent research and publications concerning the implementation of gender equality in education reveals a comprehensive treatment of the subject in the works of predominantly foreign scholars, who have established a foundational basis for scholarly exploration of the issue.

For instance, Monkman, an investigator specializing in gender in education, conducted an exhaustive analysis of the evolution of global educational policy related to gender matters, underscoring the significance of overcoming prevailing gender stereotypes. Monkman emphasized that the humanistic values inherent in a democratic society serve as the underpinning for ensuring gender equality in the lives of individuals, including within the educational sphere (Monkman, 2021).

Among domestic researchers, noteworthy is Rastrygina (2022), who offers a comprehensive examination of gender equality within the education system. Her work encompasses both theoretical and practical principles concerning the cultivation of personal freedom among participants in the educational process based on gender equality (Rastrygina, 2022). Shabayeva (2018), in her contributions, highlights the objective of the gender approach, which aims to eliminate traditional constraints impeding individual development based on gender (Shabayeva, 2018). Kikinezhdi's (2023a) research delves into pertinent issues related to the formulation of a gender education strategy in contemporary conditions, with a particular emphasis on the gender dimension of teachers' professional development (Kikinezhdi, 2023b). Gender-related aspects in education are addressed in part by Vykhov (2018), Basyuk (2018), Vorovka (2019), and Saukh (2019).

Within the framework of exploring gender equality in education, investigations into STEM education are particularly noteworthy. Foreign scholars have undertaken studies on cultural stereotypes inherent to STEM, examining their role in perpetuating gender gaps and exerting negative influences on interests and academic performance (Master et al., 2020; 2021).

Given the active conceptualization of gender in educational settings, the issue of integrating gender aspects into the educational sphere remains relevant. Babak et al. (2021), Golovanova (2018), and Dombrovskaya et al. (2018) are convinced that, given the prevalence of social stereotypes associated with gender-specific markers, a comprehensive study of the natural, technological, engineering, and mathematical fields in modern educational space. At the same time, some modern researchers (Kravets et al., 2023; Levchenko, 2020; Semenets-Orlova et al., 2023) focus on a careful analysis of gender equality in modern education by analyzing the legal and normative basis for ensuring gender equality in the educational space.

Using an interdisciplinary scientific approach, scientists (Monkman, 2021; Elbrekht et al., 2022) conducted a historiographical analysis of the topic of gender equality in the educational environment. The results of the analysis of the scientists position the need to expand the scientific discourse of the gender component in modern education in the context of evaluating the European experience.

Individual scientists (Kostina et al., 2022; Master & Meltzoff, 2020) have studied the evolution of the phenomenon of gender equality in international organizations, related to the application of gender concepts in modern education, in particular, in such concepts as the accessibility of education, teaching methods and evaluation of learning results, in particular, in the field of STEM education, which is now being actively implemented. Also, modern scientists (Pasichnyk & Lupan, 2022) pay special attention to the study of gender equality in national education systems through the analysis of normative legal acts.

2. Methods

The methodological foundation relies on both general scientific and specialized research methods. A systematic approach was employed to organize and synthesize perspectives on gender equality in education existing within the scientific domain. The hermeneutic approach facilitated an objective analysis of legislation concerning gender equality in contemporary education. Utilizing the statistical method enabled the efficient collection and processing of the empirical knowledge base related to the studied issue. The method of generalization was applied to derive conclusions from the study.

3. Results

The educational sector presently exhibits both covert and overt instances of gender discrimination and inequality. Primarily, these manifestations become apparent in the content of academic subjects, and educational and methodological literature, among other facets. A distinct facet of gender discrimination encompasses relationships within the teaching staff or biased attitudes toward students, particularly evident in the assessment of their learning outcomes or the pedagogical approach employed (Pasichnyk & Lupan, 2022). Consequently, the effective integration of fundamental gender principles within the modern educational sphere will not only guarantee equitable access to quality education for both men and women but will also contribute to their professional self-determination and advancement. Thus, the principles of gender equality should ensure parity of opportunities for all participants engaged in the educational process.

Presently, primary challenges in education that foster gender inequality encompass:

- Limited awareness of key aspects related to gender issues.
- Pervasive gender stereotypes prevalent within the educational environment.
- Absence of gender approaches within teacher training programs.
- Elevated influence of anti-gender ideology among scientists, educators, as well as within society and political circles (Levchenko, 2020).

Addressing the concept of gender education, it is pertinent to highlight that the European Institute for Gender Equality has formulated a Glossary and Thesaurus. According to this source, gender education is defined as an inherent "component of educational programs at all levels of the education system that enables girls and boys, women, and men to identify and understand how constructions of masculinity and femininity, as well as models of social role distribution (shaped by our societies), affect their lives, life choices, relationships, career development, etc" (Babak et al., 2021).

Education is an important medium for socialization, as gender roles are learned through the interaction between teachers and students. While overt curricula may be free of stereotypes, they are still present in the hidden curriculum. Feminist researchers argue that educators often treat boys with more tolerance and bias, attributing success to their abilities rather than to their hard work and perseverance in learning. In addition, gender disparity in education refers to unequal access to and opportunities for education based on gender, especially the disadvantages faced by girls and women. For example, in Pakistan, gender inequality in education is a serious problem, manifested in large gaps between boys and girls in access to education and equal opportunities for higher education. While boys' net enrollment in primary education is higher than girls', the number of girls continuing their education at secondary and tertiary levels is declining. This is due to socio-cultural norms that favor boys' education and traditional gender roles that encourage domestic work and early marriage for girls. Discriminatory practices in communities and schools also reinforce these inequalities. To address this issue, Pakistan has implemented various political and social initiatives, such as the National Action Plan for Gender Equality in Education and the active involvement of non-governmental organizations in promoting girls' education and challenging conventional gender norms (Fakhar et al., 2024).

In contrast, in countries such as Korea, Japan, and the United Kingdom, differences between the sexes are less pronounced, not because of cultural or systemic differences, but because of literacy measures. Although differences in math ability are also observed, they usually decrease with age. Debates about student achievement tend to focus on secondary education rather than tertiary education. For instance, research conducted in the United Kingdom has demonstrated that women are more inclined to obtain a commendable undergraduate degree, whereas men are more inclined to obtain a first-class honors degree (Sergienko, 2024).

In Nordic countries, such as Finland, gender equality is an important aspect of educational policy. For example, Finland's Metropolia University of Applied Sciences is actively working to promote equal opportunities, prevent discrimination, and support diversity. In accordance with the law and the university's strategic goals, an equality and non-discrimination plan is developed every two years, covering both students and staff. This plan is based on the university's overall values, strategic goals, and ethical principles, involving all stakeholders in the organization (Ravonmaa & Kortelainen, 2023). Norway actively implements gender equality principles and measures to ensure gender balance and diversity among employees and students, as well as to create a safe and inclusive work environment. An example of this is the Norwegian Research Center (NORCE), which has strategically enshrined gender equality and diversity in its 2020-2025 strategy. The Center systematically manages these issues through a dedicated Gender Equality and Diversity Committee, which helps ensure that the planned activities are implemented (Norce, 2022).

Ukraine's pursuit of European integration has significantly emphasized the imperative of reevaluating education policy, particularly concerning gender considerations. Notably, Ukraine has aligned itself with prominent international institutions and organizations under the United Nations umbrella, such as UNICEF and UNESCO, which are dedicated to addressing gender inequality and advancing gender equality within the education system (Rastrygina, 2022; Semenets-Orlova et al., 2023).

For instance, UNESCO, within the realm of education, aspires to eradicate extant gender inequalities and foster gender equality across the entire educational spectrum. This encompasses aspects related to participation in education (access), the educational process itself (content, context, and teaching and learning practices, as well as assessment), and the broader impact of education (learning outcomes, life outcomes, and work opportunities) (Monkman, 2021).

The imperative of securing equal rights and opportunities between men and women is explicitly articulated in the Constitution of Ukraine. Specifically, Article 24 of the Constitution affirms that "equality of rights of women and men is ensured by providing women with equal opportunities with men in social, political, and cultural activities, education, and vocational training" (Constitution of Ukraine, 1996).

A comparable stipulation is articulated in the Law of Ukraine titled "On Ensuring Equal Rights and Opportunities of Women and Men." Specifically, Article 21, titled "Ensuring Equal Rights and Opportunities for Women and Men in Education and Vocational Training," asserts that the state is obligated to guarantee equal rights and opportunities for women and men throughout the educational attainment process. Furthermore, educational institutions are mandated to provide equitable conditions for students, encompassing both the admission process and the overall educational experience, to foster a culture of gender equality (On Ensuring Equal Rights and Opportunities of Men and Women, 2005).

Prospects for development and trends toward awareness of the importance of gender equality in education in Ukraine are becoming more widespread as society becomes more aware of the need for harmonious relations between the sexes and the elimination of stereotypes. In addition, there is a growing need to introduce disciplines or topics that promote gender awareness due to the war, which has caused massive civilian and military deaths and the emigration of many women abroad. Currently, the Government of Ukraine is implementing various measures to ensure gender equality, including the adoption and

implementation of laws and concepts aimed at protecting the rights of women and men in education. The commitment of the Government and representatives of the Ukrainian education sector to gender equality is also supported by participation in international initiatives (the Coalition for the Advancement of Gender Equality) and signing of international treaties in this area, such as the Beijing Declaration, the UN Convention on the Elimination of All Forms of Discrimination against Women and its Optional Protocol, and relevant ILO conventions (Pryshepa & Romaniuk, 2024). In modern Ukraine, gender inequality continues to be an important problem in various fields of science. This is especially true in computer programming, disaster medicine, military medicine, forensic medicine, and other exact and technical sciences. The predominance of men among candidates and doctors of sciences is becoming even more evident, which can contribute to the consolidation of a one-sided male or female approach to scientific creativity and thinking. To address this issue, various strategies have been proposed in higher education institutions, including the utilization of role-playing games with culturally relevant communication tasks, the examination of gender stereotypes, and other forms of gender-related work in the educational process. For example, foreign language classes may use textual materials with gender content, and environmental studies classes may include gender training to develop a tolerant personality and teach political correctness. The law curriculum may also include courses aimed at understanding gender concepts and analyzing gender stereotypes and roles in society (Petrenko & Tupieiev, 2024).

In 2020, Ukraine became a participant in the Biarritz Partnership, an international initiative dedicated to fostering equal rights and opportunities for all. Through the endorsement of the pertinent document, Ukraine committed to incorporating a gender component into education (On the approval of the draft letter of the Government of Ukraine, 2020). Additionally, in the same year, the Cabinet of Ministers of Ukraine sanctioned the Concept for the Development of Science and Mathematics Education (STEM education). This framework designates the advancement of gender equality as one of the focal areas for the enhancement of science and mathematics education (On the approval of the Concept for the Development of Science and Mathematics Education, 2020).

Ukraine's incorporation of STEM education represents a crucial facet of the trajectory toward gender equality in contemporary education. Moreover, science, technology, engineering, and mathematics (STEM) education confers advantages to individuals by enhancing their critical thinking skills, while simultaneously benefiting society through the establishment of a foundation for contemporary inventions and innovations (Kostina et al., 2022).

In this context, it is noteworthy that the integration of gender principles in STEM education commenced in 2016 with the initiation of the Girls STEM project by the Corporate Social Responsibility Development Center. This initiative is principally designed to address and overcome gender stereotypes in career selection and the pursuit of STEM careers in Ukraine. The endeavors of the initiative distinctly illustrate that girls can not only express interest in science, engineering, technology, and mathematics but also make substantial advancements in these fields both scientifically and professionally. Thus, through their exemplary pursuits, Girls STEM serves to dismantle gender stereotypes regarding women's participation in the study of natural sciences or technical disciplines (STEM girls, 2021).

In this context, it is notable to highlight the research conducted by American scientists on the issue of gender inequality and its mitigation in STEM education. The study identified that cultural stereotypes and a sense of belonging play a role in fostering gender gaps within STEM education (Master & Meltzoff, 2020). Through their research, these scientists have illustrated the gender stereotypes present in the selection of vocational training among boys and girls of school age. This chart, for instance, depicts that among the various domains of STEM education, boys exhibit a higher percentage of interest in specific specialties compared to girls (Krutsevich et al., 2021a; 2021b) (Figure 1).

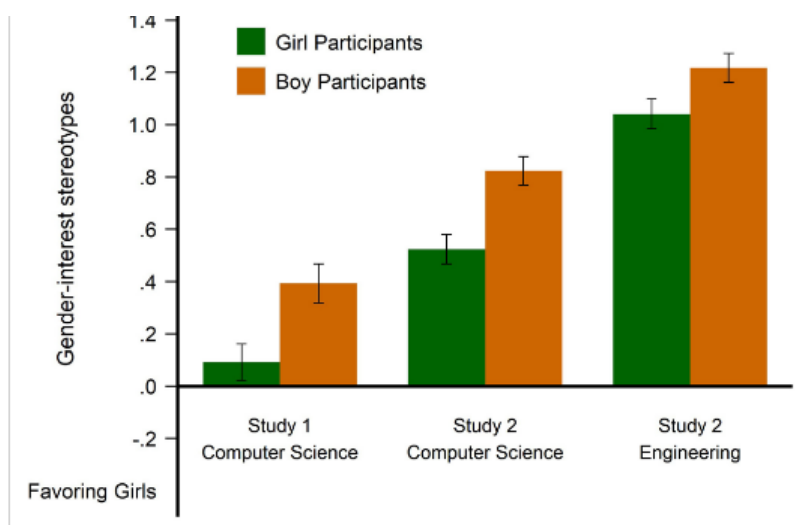


Figure 1 Gender-interest stereotypes of girls and boys: green color – girl participants; orange – boy participants. *Source:* Master and Meltzoff (2021)



In December 2022, the Cabinet of Ministers of Ukraine sanctioned the Strategy for the Implementation of Gender Equality in Education until 2030, along with the operational plan delineating its implementation for the period 2022-2024. The approval of this document affirms the establishment of a contemporary system of lifelong learning in Ukraine, designed to guarantee equitable access to education irrespective of gender.

The Strategy for the Implementation of Gender Equality in Education until 2030 delineates fundamental principles, target groups, strategic goals, and objectives crucial for implementing state policy aimed at ensuring equal rights and opportunities for women and men in education. Key principles underpinning the Strategy include openness and transparency, the pursuit of optimal solutions to tasks and challenges, and alignment with international standards in the educational sector (Kryshtanovych et al., 2022).

The overarching objective of the Strategy is to preclude and counteract any form of discrimination within the educational sphere for all participants involved in the educational process (Decree of the Cabinet of Ministers of Ukraine of December 20, 2022).

The execution of this Strategy is directed towards the following target groups:

1. Female and male education applicants.
2. Administrative, teaching, and research personnel.
3. Parents and legal guardians of education applicants.
4. Staff members of educational management bodies responsible for pertinent administrative and personnel decisions concerning specific educational institutions (Decree of the Cabinet of Ministers of Ukraine of December 20, 2022).

The document delineates four primary strategic goals:

Objective 1: Comprehensive incorporation of principles, policies, and measures to guarantee equal rights and opportunities for women and men, non-discrimination, and the preservation of human dignity within the normative legal acts of the educational sector. The attainment of this goal holds paramount significance within the framework of Ukraine's European integration trajectory.

Objective 2: Enhancing and broadening the involvement of educational institutions in coordinating the efforts of state policy actors to uphold equal rights and opportunities for women and men in education. This involves enhancing the educational process, countering and preventing violence and discrimination, and applying and implementing principles centered on equal rights and opportunities for women and men, respect for human dignity, inclusivity, and combating violence, primarily rooted in gender considerations.

Objective 3: Enhancing the competence and capabilities of the professional community specializing in gender-sensitive issues, with a primary focus on ensuring equal rights and opportunities for men and women. Additionally, fostering broader international cooperation on gender equality.

Objective 4: Ensuring equal rights and opportunities for women and men, actively combating and preventing all forms of discrimination, and implementing inclusive practices within the educational sphere. This serves as a foundational strategy for addressing the consequences of war and facilitating the post-war recovery of Ukraine.

Each strategic objective delineates specific tasks required for its achievement. For the first objective, the following tasks are identified:

- Conduct a gender legal analysis of the regulatory framework across all sectors and levels of education (i.e., pre-school, general secondary, extracurricular, vocational, higher, vocational, and postgraduate education), as well as within educational management bodies.
- The tasks aimed at achieving the second objective encompass the following:
- Cultivate an understanding in pupils and students of the unique individuality of each person and of equal rights and opportunities for women and men.
- Integrate a gender component into higher education standards for all specialties;
- Cultivate in preschool children the inclination to collaboratively engage in household chores, promoting an environment where girls and boys play and learn together, utilizing diverse subjects without segregating them based on gender.

The pursuit of the third objective encompasses the following pivotal tasks:

- Disseminating information and organizing educational activities among academic staff, both female and male employees of educational institutions, to underscore the significance of ensuring equal rights and opportunities for both women and men. Emphasis is placed on highlighting the legal foundations for gender equality.
- Incorporating master's and doctoral programs focused on gender issues into the educational process.
- Arranging and executing diverse scientific events, and conducting research on gender issues, with a specific focus on addressing challenges related to ensuring equal rights and opportunities for women and men.

To accomplish the fourth objective, the following crucial tasks are delineated:

- Analyzing state standards pertinent to pedagogical institutions of higher and professional pre-higher education to assess the inclusion of mandatory general and specialized competencies, along with learning outcomes directed towards comprehending the principles of gender equality and human rights by applicants. Notably, attention is directed towards the importance of fostering such understanding during times of crisis, including periods of martial law and the post-war era.
- Incorporating national-patriotic and military training across all educational institutions with a specific emphasis on dispelling prevailing stereotypes concerning the roles of men and women in the military and related domains (Decree of the Cabinet of Ministers of Ukraine of December 20, 2022).
- The Ministry of Education and Science of Ukraine delineates the subsequent key stages for implementing the principles of gender equality in contemporary education:
- Undertaking information and communication activities to facilitate the implementation of the gender strategy.
- Establishing conducive conditions for the exchange of experiences concerning the integration of gender equality in modern education (Vorovka, 2019).

In November 2023, a practical conference titled "Implementation of the Gender Equality Strategy in Education until 2030: Moving Forward" was convened to address the effective execution of the Gender Equality Strategy in Education. Notably, First Lady Olena Zelenska participated in the conference and underscored the prevailing societal challenge of misunderstanding the concept of gender and the crucial significance of introducing gender equality for the entire society. Within this context, Olena Zelenska highlighted that some citizens erroneously perceive gender-related issues as solely about women, emphasizing the misconception. She emphasized the imperative to recognize that gender is a concern for everyone, each individual, and is fundamentally about ensuring equality across all facets of life (Implementation of the strategy of gender equality in education until 2030, 2023).

The event also underscored crucial institutional mechanisms necessary for the implementation of gender equality in education. Key mechanisms encompass:

- Provision of training on the practical application of gender equality aspects for civil servants within the pertinent state executive body, notably the Ministry of Education and Science of Ukraine.
- Appointment of gender advisors and counselors.
- Counteraction against intersectional discrimination.
- Introduction of a non-discriminatory approach to education.
- Execution of pilot projects involving gender audits of educational institutions.
- Conducting a comprehensive independent participatory gender audit of the Ministry of Education and Science (Gender equality..., 2023).

The conference also deliberated on the integration of the gender component into the educational process, specifically examining higher education. Three distinct approaches were underscored:

1. Integration of gender issues into courses across various departments.
2. Establishment of dedicated departments, laboratories, and centers for gender studies.
3. Creation of distinct educational programs focused on gender-related topics (Implementation of the strategy of gender equality in education until 2030, 2023).

4. Discussion

Emergent challenges in the examination of gender relations within education prompt new inquiries regarding the validation of the prevailing model of gender equality in contemporary national contexts. Primarily, it is imperative to acknowledge that gender equality concerns transcend mere slogans; they constitute vital practical measures aimed at guaranteeing equal opportunities and self-realization for all individuals, irrespective of gender.

Researcher A. Rastrygina underscores the contentious nature of investigating gender equality within the realm of professional teacher training, where a clear comprehension of the gender category and its effective application in practice is deemed crucial. The researcher contends that in the preparation of future teachers, emphasis should be directed toward fostering an understanding that it is imperative to respect the personal freedom of each participant in the educational process. Moreover, the focus should be on establishing a gender-friendly educational environment that prioritizes self-determination, self-development, and self-realization (Rastrygina, 2022; Elbrekht et al., 2022).

Within the framework of enhancing the educational process and integrating the principles of gender equality, a heightened focus on gender-sensitive issues is warranted. This can be achieved through the establishment of gender laboratories or gender education centers within educational institutions. The effective introduction of pertinent positions will serve to consolidate institutional mechanisms for the implementation of gender equality in the educational sector. Researcher

Vykhor highlights a contentious aspect in this context, acknowledging the presence of gender-based violence in the educational environment, primarily manifesting through entrenched gender stereotypes (Vykhor, 2015).

5. Conclusions

The investigation revealed that the incorporation of gender equality principles in education will primarily lead to the dismantling of gender stereotypes in the formulation of educational policies. Such policies are designed to secure equal rights and opportunities for all participants in the educational process. Presently, both research endeavors and public policies have evolved to become more intricate, comprehensively developed, and strategically oriented in addressing gender-related matters in contemporary education.

To attain gender equality in contemporary education, it is paramount to address the core issues contributing to this inequality. Specifically, these issues include the pervasive gender stereotypes within the educational environment, a deficient awareness of gender-related matters, and the absence of gender approaches in teacher training programs.

A significant facet in advancing gender equality in modern education involves embracing the concept of STEM education. The proliferation of STEM education plays a pivotal role in mitigating gender stereotypes associated with the career choices of girls and women, particularly in technical and natural science specialties, fostering their scientific development in these domains.

A crucial stride toward instilling gender equality in contemporary education in Ukraine is the adoption of the Strategy for the Implementation of Gender Equality in Education until 2030. This strategy explicitly delineates fundamental principles, delineates target groups and strategic objectives, and enumerates tasks required for the effective execution of the state policy on gender equality. The strategy delineates specific measures, establishes clear deadlines, and outlines expected results. It meticulously outlines the pathways for incorporating the principles of gender equality throughout the educational continuum, from early childhood education to postgraduate education. Additionally, the document specifies vital tasks for the efficient integration of gender equality components within the authorities responsible for educational development.

Ethical considerations

We confirm that we have obtained all consent required by the applicable law to publish any personal details or images of patients, research subjects, or other individuals used. We agree to provide the Multidisciplinary Reviews with copies of the consent or evidence that such consent has been obtained if requested.

Conflict of Interest

The authors declare no conflicts of interest.

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References

- Babak M., Davlikanova O., Dmitrieva M., Kozyr M., Kompantseva L., Levchenko K., Skoryk M., & Suslov O. (2021). *Glossary and thesaurus of the European Institute for Gender Equality*. Vistka. <http://library.fes.de/pdf-files/bueros/ukraine/17580-20210419.pdf>. Accessed on March 28, 2024.
- Basyuk, L. (2018). School as a mirror of gender imbalance in society: problematization of the issue. *Gender paradigm of educational space*, 1, 55-59. <https://genderindetail.org.ua/library/osvita/genderna-paradigma-osvitnogo-prostoru-1341009.html>. Accessed on March 28, 2024.
- Constitution of Ukraine (1996). <https://www.president.gov.ua/ua/documents/constitution/konstituciya-ukrayini-rozdil-ii>. Accessed on March 28, 2024.
- Decree of the Cabinet of Ministers of Ukraine dated August 5, 2020 No. 960-r "On the approval of the Concept for the Development of Science and Mathematics Education (STEM Education) (2020). <https://zakon.rada.gov.ua/laws/show/960-2020-%D1%80#Text>. Accessed on March 28, 2024.
- Decree of the Cabinet of Ministers of Ukraine of December 20, 2022 No. 1163-r on the approval of the Strategy for the implementation of gender equality in the field of education until 2030 and the approval of the operational plan of measures for 2022-2024 for its implementation (2020). <https://zakon.rada.gov.ua/laws/show/1163-2022-%D1%80#Text>. Accessed on March 28, 2024.
- Dombrovska, S. M., Moroz, V. M., & Grenj, L. M. (2018). *State management of ensuring gender equality in Ukraine*. NUTZU.
- Elbrekht, O., Bakhov, I., Sytnik, T., & Radziievskia, I. (2022). Theory and practice of interaction of subjects of the system of supplying textbooks to educational institutions in the USA. *International Relations in the Current World*, 3(36). https://www.researchgate.net/publication/367465527_THEORY_AND_PRACTICE_OF_INTERACTION_OF_SUBJECTS_OF_THE_SYSTEM_OF_SUPPLYING_TEXT_BOOKS_TO_EDUCATIONAL_INSTITUTIONS_IN_THE_USA. Accessed on April 16, 2024.
- Fakhar, M. S., Munir, M. I., Zia, M. F., & Rasheed, M. S. (2024). Transformative power of education: unraveling gender roles in pakistan through a comprehensive literature review. *Jahan-e-Tahqeeq*, 7(1), 667-675. <https://jahan-e-tahqeeq.com/index.php/jahan-e-tahqeeq/article/view/1199> Accessed on March 28, 2024.
- Gender equality is a fundamental right and a necessary condition for achieving the goals of growth, social unity and democracy (2023). <https://mon.gov.ua/ua/news/andrij-vitrenko-genderna-rivnist-ye-fundamentalnim-pravom-ta-neobhidnoyu-umovoyu-dosyagnennya-cilej-zrostannya-socialnoyi-yednosti-ta-demokratiyi>. Accessed on March 28, 2024.
- Golovanova, T. (2018). Methodological approaches and research methods of gender issues in education. *Gender paradigm of educational space*, 1, 14-16. <https://gendercenter.sumdu.edu.ua/images/docs/12.pdf>. Accessed on April 16, 2024.



- Implementation of the strategy of gender equality in education until 2030: moving forward. (2023). In *A practical conference with the participation of the first lady*. <https://mon.gov.ua/ua/news/vidbulasya-praktichna-konferenciya-implementaciya-strategiyi-gendernoyi-rivnosti-v-osviti-do-2030-roku-ruh-upered-za-uchastyu-pershoyi-ledi>. Accessed on March 28, 2024.
- Kikinezhdi, O. (2023a). Formation of an egalitarian educational environment in higher education institutions: achievements and prospects. In *Value orientations in the modern world: theoretical analysis and practical experience: a collection of theses of the 5th International Scientific and Practical Conference* (pp. 314-319). Ternopil.
- Kikinezhdi, O. (2023b). Gender dimension of professional and personal growth of teachers. In *Advisor for the professional pedagogical and scientific growth of educators: a scientific and methodological manual* (pp. 49-76). Kharkiv.
- Kostina, T., Drozdova, D., & Bulakh, I. (2022). Gender Features of Verbal Representation of the Concept "Gender Inequality" by University. *East European Journal of Psycholinguistics*, 9(1), 76-93. <https://doi.org/10.29038/eejpl.2022.9.1.kos>
- Kravets, V., Kikinezhdi, O., & Vasylykevych, Ya. (2023). Formation of a gender-just environment in educational institutions of Ukraine: European integration context. *New collegium: scientific information journal*, 1-2(110), 15-23. https://nure.ua/wp-content/uploads/nk_2023_1-2_web.pdf. Accessed on March 28, 2024.
- Krutsevich, T., Marchenko, O., Trachuk, S., Priymak, S., Panhelova, N., & Kholodova, O. (2021a). Peculiarities of schoolchildren physical development self-assessment accounting for their gender characteristics. *Sport Mont*, 19, 195-199. <https://doi.org/10.26773/smj.210933>
- Krutsevich, T., Trachuk, S., Ivanik, O., Panhelova, N., Brychuk, M., & Kedrych, H. (2021b). Assessment of a Healthy Lifestyle and Quality of Life of Men and Women in Modern Society Based on SF-36. *Physical Education Theory and Methodology*, 21(3), 211–218. <https://doi.org/10.17309/tmfv.2021.3.04>
- Kryshchanovych, M., Akimova, L., Akimov, O., Parkhomenko-Kutsevich, O., & Omarov, A. (2022). Features of creative burnout among educational workers in public administration system. *Creativity Studies*, 15(1), 116-129. <https://doi.org/10.3846/cs.2022.15145>
- Law of Ukraine "On Ensuring Equal Rights and Opportunities of Men and Women" (2005). <https://zakon.rada.gov.ua/laws/show/2866-15#Text>. Accessed on March 28, 2024.
- Levchenko, K. B. (2020). *Gender policy in normative and legal documents*. Kyiv.
- Master, A., & Meltzoff, A. N. (2020). Cultural Stereotypes and Sense of Belonging Contribute to Gender Gaps in STEM. *International Journal of Gender, Science and Technology*, 12(1), 152-198. <https://genderandset.open.ac.uk/index.php/genderandset/article/view/674>. Accessed on March 28, 2024.
- Master, A., Meltzoff, A., & Cheryan, S. (2021). Gender stereotypes about interests start early and cause gender disparities in computer science and engineering. *PNAS*, 118. <https://www.pnas.org/doi/10.1073/pnas.2100030118>. Accessed on March 28, 2024.
- Monkman, K. (2021). Gender Equity in Global Education Policy. *Oxford Research Encyclopedias, Education*. <https://doi.org/10.1093/acrefore/9780190264093.013.1334>
- Norce. (2022). Action Plan for Gender Equality and Diversity at NORCE 2022-2024. *Norce*, 8. https://www.norcereasearch.no/assets/images/file/Handlingsplan-for-likestilling-og-mangfold-i-NORCE_ENGELSK-versjon.pdf?v=1669637902 Accessed on March 28, 2024.
- Order of the Cabinet of Ministers of Ukraine dated May 6, 2020 No. 505-r "On the approval of the draft letter of the Government of Ukraine to the Ministry of Europe and Foreign Affairs of the French Republic regarding the participation of the Government of Ukraine in the international initiative "Biarritz Partnership" to establish gender equality" (2020). <https://www.kmu.gov.ua/npas/pro-shvalennya-proektu-lista-uryadu-u-a505r>. Accessed on March 28, 2024.
- Pasichnyk, N. & Lupan, I. (2022). Gender aspects of the "hidden curriculum". *Proceedings. Series: Pedagogical sciences*, 204, 51-57. <https://doi.org/10.36550/2415-7988-2022-1-204-51-57>
- Petrenko, O., & Tupieiev, Yu. (2024). Searching for ways to solve the problems of gender equality and formation of national consciousness in education. *Perspectives and innovations of science. Series: Pedagogy*, No. 4(38), 514-525. [https://doi.org/10.52058/2786-4952-2024-4\(38\)-514-525](https://doi.org/10.52058/2786-4952-2024-4(38)-514-525) Accessed on March 28, 2024.
- Pryshepa, K., & Romaniuk, O. (2024). Gender projects in education of Ukraine. Priority directions and vectors of development of world science: Materials of YSL conferences. *Youth Scientific League*, 89-92. <https://archive.liga.science/index.php/conference-proceedings/article/view/802/811> Accessed on March 28, 2024.
- Rastrygina, A., & Ivanenko, N. (2020). Gender comfort environment as a factor in the development of personal freedom. *Proceedings. Series: Pedagogical Sciences*, 188, 28-35. Kropyvnytskyi, RVV Central State University named after V. Vinnichenko. <http://dx.doi.org/10.36550/2415-7988-2020-1-188-28-35>
- Rastrygina, A. M. (2022). Realization of gender equality in the system of education and upbringing based on the concept of pedagogy of freedom. *Modern information technologies and innovative teaching methods in the training of specialists: methodology, theory, experience, problems: a collection of scientific papers*, 65, 184-196. Druk Plus LLC.
- Ravonmaa, M., & Kortelainen, M. (2023). Diverse and Equal Metropolia–Equality and non-discrimination plan of Metropolia University of Applied Sciences for 2023–2024. *Metropolia*, 1-18. <https://urn.fi/URN:ISBN:978-952-328-377-0> Accessed on March 28, 2024.
- Saukh, P. (2019). From imbalance to synergy of the educational process: problems and prospects. In *The horizon of the spirituality of education: a collective monograph* (pp. 74-91). Zuvendra.
- Semenets-Orlova, I., Kushnir, V., Rodchenko, L., Chernenko, I., Druz, O., & Rudenko, M. (2023). Organizational development and educational changes management in public sector (case of public administration during war time). *International Journal of Professional Business Review*, 8(4). <https://doi.org/10.26668/businessreview/2023.v8i4.1699>
- Sergienko, T. I. (2024). Features of the formation of gender equality in higher education: world experience. Ukrainian studies in the European context: a collection of scientific papers. *Public organization "Innovative Horizons of Ukraine"*, 8, 269-275. http://obrii.org.ua/usec/storage/conference/zb_vol8_2024.pdf#page=270. Accessed on March 28, 2024.
- Shabayeva, S. (2018). Organization of a video club in extracurricular activities of students as a factor in their effective gender socialization. *Gender paradigm of educational space*, 1, 59-62.
- STEM girls (2023). <https://divchata-stem.org/>. Accessed on March 28, 2024.
- UN Sustainable Development Goals (2023). <https://www.undp.org/uk/ukraine/tsili-staloho-rozvytku>. Accessed on March 28, 2024.
- Vorovka, M. (2019). *The development of gender culture of students in the focus of historical and pedagogical research*. Melitopol.
- Vykhor, S. (2018). Manifestations and causes of violence in the educational environment: gender aspect. *Gender paradigm of educational space*, 1, 81-86.