

THE GENDER EQUITY DIMENSION OF LIFELONG LEARNING: DIGITAL TRANSFORMATION INSIGHTS FOR ARMENIA

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Abstract

In Armenia, women are actively engaged in lifelong education - often at higher rates than men. Yet participation alone does not translate into equitable outcomes. The central issue lies not in access but in how learning converts into skills, credentials and economic opportunity. Drawing on Armenian policy frameworks, digital literacy assessments, as well as comparative international experience, this article examines the ways digital platforms can either deepen existing inequalities or help reorganize them. When developed with learning trajectories, recognition mechanisms and real-life constraints in mind, digital learning can strengthen women's capacity to transform participation into real progress. The Armenian case suggests that gender equity in lifelong learning depends less on increasing participation and more on restructuring how learning is valued and connected to opportunity.

Key words: Continuing education, lifelong learning, non-formal education, gender equity, digital transformation, digital skills, digital access, adult learning, gender gap, Armenia

JEL codes: I21, I26

Introduction

Women participation in education in Armenia - both at the university level and in lifelong learning - is notably high (European Training Foundation, 2021; Mazhinyan et al., 2021). The motivation to keep learning is driven by both personal goals and the demands of the job market and broader society. However these demands are not distributed equally. This means that gender equity in education cannot be measured by participation rates alone. Even as women's engagement in lifelong learning continues to grow, that engagement does not always lead to better economic or professional outcomes across many contexts.

This raises important questions for education systems today, one of which is why does learning not always pay off equally?

Armenia is not unique in facing this challenge, nevertheless it is essential to study it to seek solutions. The country has reached formal gender parity in education. Its non-formal sector is expanding. At present, it is undergoing a digital shift that is changing how, where and whom education is delivered. That shift creates real opportunities, as well as real risks too. Digital

platforms can open new doors. They can also quietly produce inequalities both the ones that existed before and emerging along development of the sector.

This article examines why participation alone is not enough and what would need to change for it to be. The analysis is grounded in academic research on continuing education management in Armenia, alongside direct practitioner experience from programs across the country's regions. This combination connects institutional realities with what is actually happening on the ground.

This tension between participation and outcomes is not unique to Armenia. It is well-documented across developed and transitioning economies alike. Over the past two decades a consistent pattern has emerged across Europe: women participate in adult and lifelong learning at rates equal or higher than men, yet this does not result in equal outcomes in the labor market (OECD, 2025; Blau & Kahn, 2017). The real debate has shifted accordingly. It is not as much a question about access, but increasingly more about how learning is structured, recognized, and connected to real opportunities.

Research on gender and education has revealed that higher qualification levels among women do not on their own eliminate inequality in the labor market. Occupational segregation and wage gaps have persisted even where educational parity has been achieved (Blau & Kahn, 2017). Globally, women remain underrepresented in high-return fields such as ICT and engineering while being more concentrated in education, health, social services - sectors that tend to offer lower pay and fewer opportunities for career advancement (World Economic Forum, 2022). The key issue is not whether women are learning, but what kinds of learning they are channeled into, and what happens after that learning ends.

This connects directly to how thinking about the digital divide has changed. Early discussions focused mainly on access - whether people have the necessary devices and internet connectivity. More recently attention has shifted to something harder to measure: differences in how people use digital tools, how confident they feel using those, and whether they can turn digital engagement into real social and economic gains. Some researchers refer to this broader capacity as "digital capital" (Ragnedda et al., 2020). This distinction has significant implications for policy. Closing the device gap does not automatically close the outcomes gap.

Armenia illustrates this distinction clearly. Progress in expanding digital access and online learning has been documented (European Training Foundation, 2021), but assessments of digital literacy show persistent gaps across different socio-economic groups, regions, and educational backgrounds (Harutyunyan et al., 2024). Gender intersects with all these factors in complex ways - it is not a simple divide but part of a broader set of structural conditions that determine benefits from digitalization and who does not.

Non-formal and information education play a central role in this picture. In Armenia they carry much of the practical weight of adult learning, yet the sector remains fragmented. It is driven more by donor priorities and short-term project funding than by sustained national strategy (Ispiryan & Vardanyan, 2022; Silova & Steiner-Khamsi, 2008). The flexibility and reach of these programs are genuine strengths. Their weakness is the lack of strong mechanisms for recognition and progression, which limit their ability to support the kind of cumulative skill-building that leads to lasting professional mobility (Colardyn & Bjornavold, 2004).

A comparison with Nordic countries is useful. In Finland and Sweden, high rates of women's participation in lifelong learning are matched by solid systems for validating and connecting that learning to the labor market (European Institute for Gender Equality, 2019). The difference is not cultural, it is structural. Those systems are designed to make learning count. This article is based on a review of published research, policy documents and system-level analysis focused on how digital transformation interacts with gender equity in lifelong education in Armenia. The primary question is not on participation rates as such, but on the mechanisms or their absence through which learning either converts into meaningful outcomes or does not.

Findings and Discussion

Participation Without Conversion: The Core Gender Gap

A shift in perspective helps to understand the Armenian case. Women are not excluded from lifelong learning, they are present and often highly engaged. The question is what follows from that engagement. And here the pattern becomes considerably less straightforward.

Evidence from across Europe shows that even where women's participation in education and training matches or exceeds men's, men are more likely to receive employer-supported training and to participate in non-formal education and training during working time (European Institute for Gender Equality, 2019). This is not a gap in motivation or effort. It reflects a structural difference in position within economic life: learning that is embedded in employment carries different returns than learning pursued independently, on one's own time and at one's own expense.

A similar pattern can be observed in Armenia, though the available evidence remains. Women are active in non-formal education and training programs, particularly those focused on general skills and entry-level digital competencies (Mazhinyan et al., 2021). However their representation in more advanced, technical or career-oriented pathways appear considerably more limited. Moreover, where learning does occur, it is not always cumulative. Short courses, stand-alone workshops, so called disconnected training events rarely build toward sustained career progression in particular.

Digital Transformation as Design Choice, Not Neutral Tool

This is the context in which digital transformation becomes more significant. It is not a neutral technical development, rather it becomes a set of design choices that will either reinforce this pattern or challenge it.

No doubt, digital tools have genuinely expanded access to learning. However, expanding access and expanding opportunity are not the same thing, and the gap between them is where the most important design decisions lie.

Much of digital lifelong learning, as it has been built and delivered in practice, is modular, short-term, and self-directed. These features make it more accessible, particularly for people managing caregiving, household responsibilities, and irregular or fragmented work alongside a desire to learn. But they also produce a particular kind of fragmentation: learning that is broken into isolated units which in turn are difficult to build on, are harder to have formally recognized, and rarely connected to structured employment pathways. The risk is invisible, but real. Women who are already active in lifelong learning overall, may become concentrated in forms of digital education that are easiest to access. But difficult to convert into economic advancement. Antonio and Tuffley (2014) document gender gaps in technology access and participation in digital environments, highlighting how barriers to full engagement can shape patterns of use. Research on gender wage disparities who that even when women achieve similar levels of human capital, there are cases when they receive lower economic returns in the labor market compared with men (Blau & Kahn (2017). Such differences in labor market returns suggest that increased participation in digital learning alone may not convert into better economic outcomes for women if some of the underlying occupational and structural inequalities remain.

Yet the same technologies can be deployed in very different ways. Digital systems can support stackable credentials, allowing learning to build toward recognized qualifications rather than creating disconnected experiences that employers may not readily interpret (Colardyn & Bjornavold, 2004). Without such structures, learning may remain fragmented and unrecognized. These cases of the labor market not being able to easily interpret will turn into an outcome that may disproportionately affect women if they are concentrated in easily accessible but low-recognition courses .

Evidence from digital inclusion initiatives indicates that supportive structures such as mentoring, peer networks can help to produce measurable improvements in confidence, autonomy, and broader participation in economic and social life beyond just technical skills alone (Ragnedda et al., 2020). The same study demonstrates how offline backgrounds significantly shape individuals' capital determining their actual gains from digital engagement.

This sets a more demanding standard for program design than simply putting content online. It is also a more honest account of what equity actually

requires. True equity means the learning leads somewhere, and that requires more than a platform and a course.

Institutional Constraints: Funding, Recognition, and the Validation Gap

None of this takes place in an institutional vacuum. Armenia's legislative framework has begun to acknowledge non-formal learning, or as quoted additional education in the recently adopted Law on Higher Education and Science (Republic of Armenia, 2025), which is a positive step. However, acknowledging and implementing are different stages, and the gap between them is currently big. Without clear and functioning systems for validation, skills acquired through digital platforms remain weakly connected to formal qualifications, and to the labor market recognition that makes the credentials economically meaningful.

Funding structures reinforce the fragmentation. Non-formal education in Armenia depends heavily on external donor cycles which are designed around short-term outputs: numbers trained, courses delivered, workshops completed, certificates handed. Digital delivery scales quickly within that logic, and it has. But scale without continuity does not build equity. A woman who completes three unconnected online courses across three donor-funded projects, each with its own certificate and none recognized by a potential employer, has not been served by a system. She has been counted.

Countries like Georgia face a structurally similar situation where non-formal education remains dependent on external funding and lacks systematic validation mechanisms (Silova & Steiner-Khamsi, 2008). The comparison is illustrative in showing that these constraints are not specific to Armenia alone, and require systemic rather than project-based solutions.

The regional dimension adds something that urban-focused analysis tends to overlook. Digital platforms do reduce geographic barriers, and for women in rural Armenia this has been a meaningful change. With that said, reduced barriers are not the same as removed constraints. Infrastructure gaps remain, local digital literacy levels vary significantly. And even where women in rural areas actively participate in online learning. They frequently face limited pathways for applying that learning within their local economy, local reality. Digital access in this sense can create a visibility of opportunity that the local employment market is not yet structured to fulfill.

This brings the argument back to its central question: what does gender equity mean in this context? It is not achieved when participation rates equalize, or even when they favor women, as they already do in several respects. It is achieved when learning leads to comparable opportunities, recognition, and returns. By that measure Armenia still has considerable distance to go. How Armenia designs its digital lifelong learning offer will determine whether that distance closes or stays where it is.

Conclusion

The Armenian experience challenges a common assumption in gender equity in lifelong education policy according to which increasing women's participation in learning will over time produce greater equity and it is in itself a solution. The data suggests otherwise. Participation is already high, in some respects higher among women than men. What is missing is the structural foundation that makes participation matter. The gap is not in women's engagement, it is how the system is built to respond to it.

Gender equity in lifelong learning is better understood as a question of conversion: how learning transforms into skills, credentials, recognition, economic opportunities. In Armenia, that conversion remains uneven. The system is shaped by short-term funding cycles, limited credential recognition, and digital tools that have been adopted without the institutional framework to make them count. The credentials acquired through non-formal and online programs remain weakly connected to formal qualifications and to the labor market recognition that gives them economic meaning.

Digital transformation will not solve this gap automatically. Without deliberate design, it tends to prioritize flexibility over structure and access over progression, and in doing so it risks widening the very gap it is assumed to close. However, with the right institutional choices and system design - the kind that Nordic systems have built over decades with stackable credentials, functional validation systems, clear links to employment which in practice means making learning formally count toward qualifications and visible to employers, it can meaningfully change how learning works. That potential is real, but it has to be built.

Armenia's 2025 Law on Higher Education and Science creates a legislative opening though its primary focus remains higher education, and what it means for non-formal learning will depend entirely on the regulatory development that follows. What that development needs to deliver is specific: building systems in which non-formal learning credentials are recognized, provider quality standards are regulated, funding is sustained, and every individual course connects to a visible next step toward broader qualifications and employment pathways. That gap is felt most directly by those, like women in Armenia's regions, who have the motivation to learn but no clear route from learning to opportunity.

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