Digital Skills and Gender Equality

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Abstract

Today, gender equality and digital development are inextricably linked. Digital skills have become a necessity and no longer an option unlike a few years ago, especially after the pandemic. Technology has penetrated every nook and corner of society, so much so that it has become absolutely necessary to be able to function to the fullest and be in sync with the world around us. Against this backdrop, developing digital skills is imperative because of the role it plays in every aspect of life. Therefore, our education system needs to be more inclusive in order to bridge the gender digital divide. To bridge the gap and achieve gender equality, equal access and training is required. However, the implementation of such an education system, though, is an entirely different story. Digital skills education, especially for women and girls, is in a deplorable state. This paper will analyse the urgency of the need to address this issue and discuss potential measures to achieve equality.

Keywords: Digital, Skills, Gender, Equality, Education

Introduction

Despite the visible progress made in the last few years in terms of increased access to digital tools, there still remain several obstacles that need to be overcome to ensure that the transition to a digital society is inclusive for women. Women continue to lag in their capacity to access, use, and afford digital tools. The disparity among genders in terms of owning digital devices, accessing them, digital fluency, and the ability to effectively use technology continues to be glaring and pervasive. While the ability to afford is definitely a major cause of exclusion, strong socio-cultural restrictions limit women's access. In addition, they also face cultural hurdles and preconceptions, which influence their expectations and may drive them to pursue career paths that are not necessarily rewarding in an increasingly digitised and connected world. This calls for systemic policy measures and legislative reforms, particularly in education systems, and those targeted at changing cultural norms and addressing preconceptions critical to closing these disparities.

The digital gender divide continues to be a crucial barrier to the meaningful participation of women in a digital society, which is further amplified by the lack of digital skills and afford ability. If we do not address these gaps in digital inclusion within genders timely, they could contribute to gender disparities in several other sectors, including, but not limited to women's financial inclusion and labour market inequities. The primary reason for this is that digital technologies are ubiquitous, and digitalization impacts every aspect of our life.

As a result, digitally excluded women may miss out on more appealing and profitable job prospects because of their lack of digital literacy, which could probably be considered as the most in-demand skills in today's technology-driven world. Adding to this marginalization, they will be unable to find a job that pays them decently. Many firms prefer to conduct their hiring process online, and even searching for a job is becoming an increasingly digitized procedure. Owing to this, women who do not have access to such media risk obtaining much lower pay than current market rates for their work. As a result, the incapacity to access and use digital technology is expected to widen the pay gap between men and women.

Gender Divide in Use of Technology

Gender disparities in the use of computers in various settings have been highlighted in research over the last two decades. In schools, for example, studies found that male pupils had greater access to technology, had a more positive outlook toward computers, and felt more efficient in their digital skills than their female colleagues (Shashaani). (Nelson and Watson) analysed studies researching computer-based education systems to look for gender differences inculcated in the systems. Their findings revealed that there are significant gender inequalities in terms of access and performance outcomes, and that this imbalance dates back to preschool, when males regularly spent more time in computing activities than females.

In the physical world, gender inequality is seen to be replicated in the digital world. Computer and technology use has been mostly seen as a male domain and hence more acceptable for boys than girls; in keeping with gender stereotypes, technical areas are mostly connected with masculine attributes (Charles and Bradley). The digital gender gap is prevalent at home at a very young age. Gender socialization begins at an early stage in a person's life, paving the path for the internalization of gender roles, conventions, and consequently gender inequities, among young children. Parents mostly decide on hobbies and toys from an early age; boys are likely to be given cars with some technology, whereas, for girls, toys are more likely to be related to nurturing and beauty. It has also been observed that boys are given more opportunities to study and take up sports by parents, while girls are encouraged to help out with household chores and take care of younger siblings.

It is believed that men are more likely than women to know how to operate a smartphone, browse the internet, use social media, and protect personal information in digital media worldwide. This lack of digital abilities can be seen at all skill levels, right from the simplest, like using apps on smartphones, to the most technical, like designing computer software. Women face a variety of challenges to digital access, social and cultural standards, financial independence, cyber safety, and a lack of technical skills. Women who are older and less educated than their peers, impoverished, or live in rural areas and developing countries have more significant barriers to access and skills. As a result, concerns of poverty and educational access overlap with and are exacerbated by the digital skills gap.

These gendered experiences, at a very young age, affect girls' level of confidence. They tend to undermine their abilities, and consequently, their interest in technical areas may be affected. As a result, according to (Colley and Comber), by adolescence, boys report more frequent use of computers, are likely to be more confident while handling computers and their digital skills also tend to be stronger (Kayany and Yelsma; Li and Kirkup). They are also more keen about technology in general as compared to girls (Kayany and Yelsma; Li and Kirkup), Similarly, girls are far less likely than boys to describe themselves in terms of computers (for example, "computer enthusiast" or "computer freak") (Korlat et al.).

Digital Skills as a Tool

Economic and societal potential abound as a result of the digital transition. However, the benefits that digital transformation brings with it, are not evenly distributed across societal and gender groups, and the access, use, and ownership of digital tools are not gender-neutral. Intel and Dalberg conducted a survey in 2012 which revealed that more than half of the women who have not received any formal education claimed that they felt uncomfortable or

unfamiliar while using technology. "Digital gender divide" refers to gender discrepancies in resources and capabilities for accessing and efficiently utilising technology within and across locations and socioeconomic classes. The digital gender divide is exacerbated by technological inexperience, which frequently manifests as unfamiliarity with digital tools and Internet access. Education, the job market, and socioeconomic status all play a role in such "technophobia."

A survey conducted by UNESCO Institute for Lifelong Learning revealed that a lack of literacy and numeracy skills results in low digital skills. In terms of digital adoption and use, men and boys are way ahead of women and girls. This gender disparity in digital access also reflects the gap in meaningful digital use. These differences hamper women's access to the full spectrum of digital opportunities in usage. A lack of reading skills limits women from fully utilising and profiting from digital tools and learning opportunities. A study conducted in rural India by Alina Sorgner, Gloria Mayne, Judith Mariscal, and Urvashi Aneja in 2018 found that a large percentage of women who owned cell phones only understood basic functions like answering calls; they couldn't read messages or dial numbers without help from men around them. This is due to lack of literacy and numeracy abilities, the study claims.

One other reason why more males than females use digital technologies is that they do not understand the Internet's potential benefits. It is also believed that men are much less likely than women to avoid using the Internet as women tend to believe that they "do not need" or "do not want" it (Fallows). According to Dalberg and Intel, 25% of women who do not use the Internet are typically uninterested in doing so. Most women believe that there is no advantage in accessing the Internet. Although women often express disinterest in or expect less than the bare minimum for the utility and relevance of digital technologies in their communities, the lack of trust may be a more significant factor that discourages women from using digital gadgets.

Along with infrastructure roll-out, a lack of digital skills, and price, the digital gender barrier remains a major impediment to full participation in a digital society. Women and girls make up the majority of the estimated 3.7 billion unconnected people. According to research published by the European Commission in 2018, women are less encouraged to pursue a career in ICT: they appear to suffer significant gender bias and stereotypes when entering the labour market as ICT professionals.

Achieving Gender Equality by Leveraging Education as a Tool

The ability to leverage the potential of digital transformation is a crucial component of more inclusive and sustainable economies and communities for both men and women. Yet, women continue to lag in their capacity to access, use, and afford digital tools. They also face cultural constraints and preconceptions, which influence their expectations and may drive them to pursue career paths that are not necessarily gratifying in an increasingly digitised and connected world. Early and systemic policy measures, particularly in education systems and those targeted at changing cultural norms and addressing preconceptions, are critical to closing these disparities and preventing them from becoming even more pronounced as the digital transformation develops.

It has been frequently discussed that education plays an important role in achieving and promoting gender equality and empowering women This includes teaching as a critical element. An approach must be established for a more gender-responsive education system that enables lifelong learning to achieve a balanced relationship between access and capabilities (literacy, numeracy, and digital skills). Through education and awareness programs, it is possible to map and bring together the aspects that could help improve women's participation in digital learning and close the gender digital divide.

Pedagogical Implications

Against this backdrop, developing digital skills is imperative because of the role it plays in every aspect of life. Therefore, our education system needs to be more inclusive in order to bridge the gender digital divide. To bridge the gap and achieve gender equality, equal access and training is required. A multi-pronged approach is required to achieve gender equality through education. There have been

records of a few successful programmes on a smaller scale in various parts of the world that have provided insights into how classrooms could be opened up to ideas and practices that are unbiased by gender. Based on these findings a few areas of intervention for shedding gender bias in educational practices are suggested as follows:

Changes in the Curriculum

It may be beneficial to review the school curriculum throughout grades to eliminate gender biases that could inculcate societal gender inequalities among the students. While the material in Mathematics and Science textbooks may seem to be free of gender biases, this is not true. In a Science textbook, for example, very few female scientists may be mentioned in comparison to the number of male scientists. There may not even be any mention of female scientists at times. Another example that could be pointed out is the frequent representation of farmers as men in textbooks, even though there are many farmers who are women, all across the globe. Consequently, it is vital to revise textbooks for gender sensitivity.

Pedagogical Reformations

Classroom activities are critical in determining the learning process of students. The interactions that take place in the classroom between the students and teacher, as well as among students of different genders, are pivotal from the perspective of gender. Internalised standards of gender may explain why female students do not participate as actively as male students in class debates. If in a mixed-gender classroom, there is a separate group of transgender students, and this group does not interact with other students, it may suggest that there is some form of rejection or disrespect from the other students. Such dynamics in the classroom may jeopardise the wider purpose of policies that reinforce inclusive education. Therefore, it is important that they are appropriately addressed. Teachers can use micro tactics like encouraging all students regardless of their genders to participate more in classroom discussions, express their opinions, and take the lead in activities conducted in the class. It is also necessary to ensure that examples that are used to teach the students are selected carefully, so that a balance of genders is maintained and these examples demonstrate transcending gender roles. This could help bring about unbiased lessons in all subjects. The Tutorial Learning System, a program in Honduras implemented at the secondary school level, that encourages teachers to use methods which do not discriminate between the genders, had developed a curriculum that could be used as a blueprint of practising equality in the educational process.

Facilities Provided at the Institutional Level

Another key intervention area for achieving gender equality via education is the establishment of institutional support, and providing the guarantee that it reaches every student. It is necessary to establish tools that address gender-based discrimination at the institutional level. One of the most significant issues in institutions is sexual harassment. The absence of a system that could deal with such situations only aggravates inequality among the genders and promotes an environment of fear and distrust. Therefore, it is crucial that anti-sexual harassment units are established in all educational institutions. In some cases, a partnership could be formed between the local law enforcement authorities and the schools. This may provide encouragement to pursue legal action if any student faces sexual harassment. Moreover, LGBTQI+ cells may be helpful in creating platforms to discuss about gender and sexual identities, as well as paving the path towards mutual acceptance and respect.

Creating Awareness

Awareness around gender issues aims to increase general sensitivity, knowledge, and understanding of gender equality and inequality. This awareness plays a vital role in gaining deeper insights into the existing beliefs regarding gender roles and gender-based stereotypes, shedding preconceived notions, and developing the skills required to bring about a changed behaviour. There are several courses of action that could be adopted to spread awareness regarding gender, thus sensitising students. Schools could organise workshops to understand the meaning of consent, gender as a non-binary concept, and sexual and reproductive health rights. Such programs could be tailored to be appropriate for the age group

of the students in order to properly encourage them to see both genders as equal and positive. Using examples from real life that the students can relate to while teaching concepts, organising talks about their experiences based on their genders, and hearing them talk about how they view their gender will all assist to broaden their outlook towards gender conversations. It will also enable them to understand and appreciate the experiences that students of different genders have gone through. Gender awareness and sensitivity can be increased through activities such as music, theatre, and quizzes. These awareness seminars can help these kids improve their behaviour and attitudes, which can have a big impact on their behaviours in the long run.

Infrastructural Development

While it is important to raise awareness around gender issues and address the root causes of gender-based violence, the only way to accomplish this is by ensuring that certain basic conditions are met. Bridging the gap in enrollment between men and women is key to any further lessons in equality. In some regions, girls cannot attend school because of lack of access, or absence of basic infrastructure like drinking water facilities and working toilets, safe public areas, and transit to reach there. It is crucial that audits of locations in and around schools are conducted to see whether students can safely and freely get to school, regardless of their gender.

Conclusion

It is for certain that a conducive educational environment is an absolute necessity when it comes to effectively instilling gender equality principles in children. We must identify the key stakeholders who are a part of the interventions that are planned. We hope that gender equality can be achieved through education by implementing the solutions recommended. It is at this point that the major stakeholders in the educational system either enable or impede the process of achieving this goal. These stakeholders must be properly assessed and trained to make sure that they encourage and enable gender equality.

The role that teachers play in the learning process is unparalleled. Their participation is crucial in changing students' attitudes around gender. Gender should be a cross-cutting element in teacher education programmes across all subjects. Teacher education must also include gender-sensitive pedagogy, as well as engaging with students of all genders and guiding them in eliminating preconceived notions about gender. Modules on gender equality must be included in training sessions that take place both before and during service. School principals serve as an essential link between legislative initiatives and on-ground execution. The principal of the school plays an important role in enforcing gender equality in educational practices. Goal-setting for initiatives and changes at the school level, which are required to effectively provide gender equality education, must be guided by larger-scale policies. In any educational institution, the non-teaching support staff also plays a critical role in defining students' experiences. It is therefore vital to teach them behaviour that promotes gender equality and appropriate ways to respond to situations of bullying or discrimination against any student. The responsibility lies with the head of the institution to coordinate with and guide the teaching as well as non-teaching personnel to ensure consistent delivery of the gender curriculum. In addition, workshops and interactive sessions can be organised by the school to keep the parents informed about the efforts being made by the school to promote lessons in gender equality. Several instances of gender-based discrimination start at home, so it is critical that parents are made aware of gender-inequal behaviours and attitudes.

References

Charles, Maria, and Karen Bradley. "Indulging Our Gendered Selves? Sex Segregation by Field of Study in 44 Countries." *American Journal of Sociology,* vol. 114, no. 4, 2009.

Colley, Ann, and Chris Comber. "Age and Gender Differences in Computer Use and Attitudes among Secondary School Students: what has Changed?." *Educational Research*, vol. 45, no. 2, 2003, pp. 155-65.

Fallows, Deborah. "How Women and Men use the Internet." *Pew Research Center*, 2005.

Judith, Mariscal, et al. "Bridging the Gender Digital Gap." *Economics Discussion Papers No. 2018-60,* 2018.

Kayany, Joseph M., and Paul Yelsma. "Displacement Effects of Online Media in the Socio-Technical Contexts of Households." *Journal of Broadcasting & Electronic Media*, vol. 44, no. 2, 2000, pp. 215-29.

Korlat, Selma, et al. "Gender Differences in Digital Learning during COVID-19: Competence Beliefs, Intrinsic Value, Learning Engagement, and Perceived Teacher Support." *Frontiers in Psychology*, vol. 12, 2021.

Li, Nai, and Gill Kirkup. "Gender and cultural differences in Internet use: A study of China and the UK." *Computers & Education*, vol. 48, no. 2, 2007, pp. 301-17.

Nelson, Carole S., and J. Allen Watson. "The Computer Gender Gap: Children's Attitudes, Performance, and Socialization Spotlight: Gender Differences." *Montessori Life*, vol. 7, no. 4, 1995, pp. 33-35.

Selwyn, Neil, and Keri Facer. "Beyond the Digital Divide: Toward an Agenda for Change." *Handbook of Research on Overcoming Digital Divides: Constructing an Equitable and Competitive Information Society*, IGI Global, 2010.

Shashaani, Lily. "Gender-Differences in Computer Experiences and its Influence on Computer Attitudes." *Journal of Educational Computing Research*, vol. 11, no. 4, 1994, pp. 347-67.

van Dijk, Jan. *The Digital Divide*. John Wiley & Sons, 2020.

Zhou, George, and Judy Xu. "Adoption of Educational Technology: How Does Gender Matter?." *International Journal of Teaching and Learning in Higher Education*, vol. 19, no. 2, 2007, pp. 140-53.

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