

How 21st century skills in secondary school can bridge the gender gap

*Critical thinking can support women professionally, and it should be taught in secondary school. **Jukka Tulivuori** and **Talal Rafi** argue that higher-level thinking skills such as problem solving, communication, critical thinking, collaboration, and creativity — all considered 21st century skills — can be developed through the study of STEM subjects (science, technology, engineering, and mathematics).*

The 21st century skills of adaptability, creativity, and problem solving are a must for an evolving world of work and will be needed in most jobs in the future, with the pandemic making it even more urgent. Companies are also becoming smaller, more innovative, entrepreneurial and digitally transformed.

The Fourth Industrial Revolution risks leaving women behind because they are [underrepresented](#) in fields that are the most relevant to it. These are, for example, engineering, computing, information technology, physics, and mathematics. Women tend to [dominate](#) jobs related to administration which are at risk. Education is the best place to start and STEM (science, technology, engineering and mathematics) is crucial, as it focuses on developing higher level thinking skills such as problem solving, communication, critical thinking, collaboration, and creativity. Skilling women with 21st century skills in secondary education can empower them. [Studies](#) show students who have this type of social and emotional learning tend to enjoy long-term benefits such as higher rates of employment and educational fulfilment.

Collaboration and teamwork are also essential 21st-century skills as they tend to build trust, tolerance and empathy. With increasing automation, most work in the future will need cognitive thinking. Collaboration and teamwork skills are essential when the future of work will be about solving problems and bringing insights, expertise and different perspectives. Upskilling young women in collaboration and teamwork will help women network better, which will increase their representation in the workforce.

By some estimates, 75% of S&P 500 companies will be [replaced](#) by 2027 due to digital transformation, forcing companies to be creative. With the future being uncertain, companies will look for the 21st century skill of creativity when hiring. Creativity also allows employees to expand their problem-solving skills. With Asia mostly employing rote learning, making education more focused on fostering creativity can alter women's chances of leading companies.

Critical thinking is the process of looking at different perspectives without being influenced by opinions. Critical thinking and problem-solving top the skills list employees think will grow in prominence in the next five years, [according](#) to the World Economic Forum. As women are severely underrepresented at the strategy-making level, critical thinking can be one of the best cognitive skills for women to develop. The ability to think from different perspectives can help women become more successful as professional leaders and entrepreneurs.

Lack of networking opportunities is one of the main reasons for women being [underrepresented](#) at management levels. Though several factors cause women to have fewer opportunities to network, communications skills can help women maximise the few networking opportunities they do get. Good communications skills taught at educational institutions lead to long-term relationship building and higher confidence. A [study](#) shows that one of the reasons for gender disparity in career progression is because women self-promote less.

What can be done to support these efforts?

Bringing together Education stakeholders. It is important to get the support of important stakeholders in education when bringing in 21st century skills into education for girls, as in many parts of Asia there is a cultural bias against education for women. Important stakeholders such as parents, school management, local education ministries, universities, and the private sector will have to be convinced that empowering women is good for society and energised to drive this change.

Reskilling and recruiting teachers. As teachers will be the main driving force, it is important to reskill teachers with STEM education skills that will enable them to foster skills such as collaboration, critical thinking and communications in students. Teachers should be motivated to bring in gender equality. Teachers should also be given job placements in industry so they will have an understanding of the workplace. Lastly, it is important to ensure teachers are recruited from the local areas so they will remain teachers for the long term.

Curriculum development. The curriculum needs to be transformed into a competency-based one that will focus on developing skills. The style of teaching should move towards having more workshops with students in groups, solving case study problems which will develop collaboration, critical thinking and communications skills.

Introducing more technology. More technology such as edtech should be introduced as this will familiarise female students so they can go home and learn other non-school topics also online. Having more team-based remote studying for female students is essential as there is evidence that women [prefer](#) to have flexible working arrangements. This also aligns with the workplace being [more hybrid](#) in future.

Female participation in computer science [plunged](#) in the 1980s, which led to women losing out on the third industrial revolution. The education system needs to upskill young women with 21st century skills or they risk being left behind in the fourth industrial revolution.



Notes:

- *This blog post represents the views of its author(s), not the position of the Asian Development Bank, LSE Business Review, or the London School of Economics.*
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