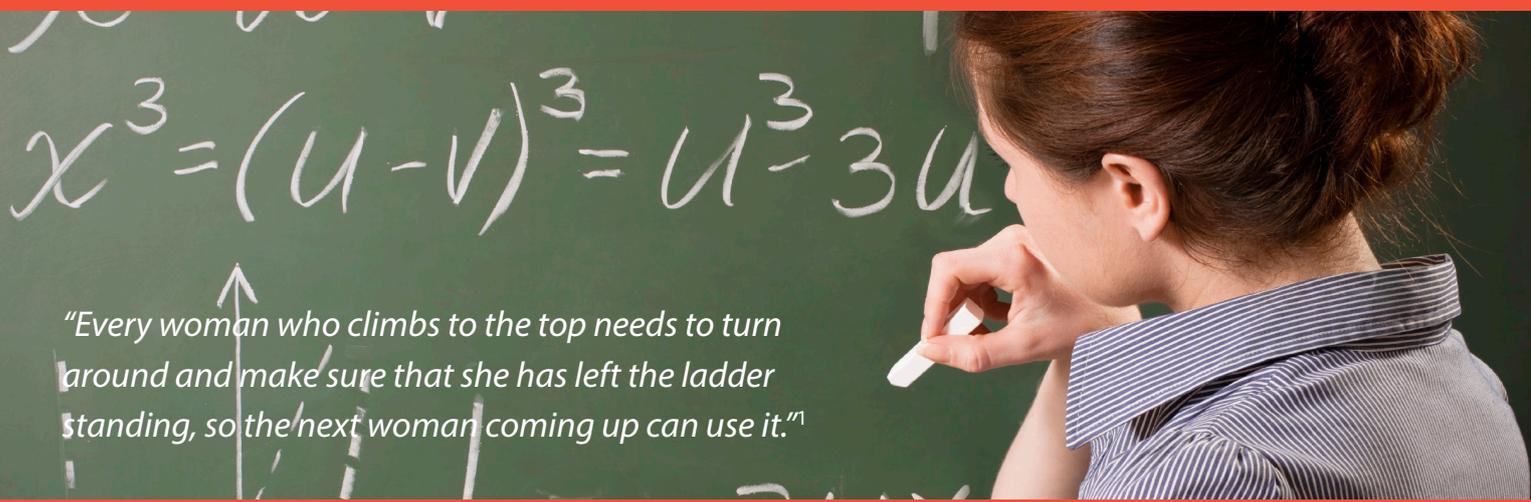




Women in science: a necessity?



International Federation of University Women (IFUW)



Women in science - a necessity

Science and technology are the twin pillars of progress and all people must have equal access to technology. Science and technology improve a state's productivity and competitiveness, create decent work opportunities and contribute to people's well-being. Science and technology further the achievement of internationally agreed development goals by facilitating efforts to eradicate poverty, achieve food security, fight diseases, improve education, and respond to the challenges of climate change.

A gender imbalance exists in science, technology and innovation worldwide. The numbers of women in these fields fall as they progress from secondary school to university, professional occupations and higher levels of decision-making. There are consistently low levels of women in the skilled technology workforce, with even fewer women in senior management and as leaders of large companies. A gender imbalance also exists in science education, where men outnumber women, particularly in fields such as engineering and mathematics.

Education, education, education

According to UNESCO's 2010 Global Education Digest, 40 per cent of countries do not have gender parity in primary education. This is partly a result of attitudes of parents and teachers. Early interest in science is key, even as early as kindergarten level, to entice young girls and women to study science and then to keep them interested and engaged. Parents need to encourage their daughters to finish primary and secondary school and to continue their education; teachers need to encourage girls to pursue the study of sciences.



Role of teachers in showing that "science is cool"

Getting women interested in technology is an opportunity for change. Exciting and motivating teaching requires exciting and motivating teachers. There is an opportunity to re-motivate teachers with new tools, modernised curricula, and different technologies, including mobile phone applications.

1. Quoted from Navi Pillay, United Nations High Commissioner for Human Rights

Changing perceptions

A widely-held belief that women are not as good at science and mathematics as men means that in some countries science is regarded as a male domain and the cultural context impedes girls and women from accessing science as a career. There is also a lack of role models for girls in science and technology.

Only five to ten per cent of board members in high-tech companies are women. Only six per cent of CEOs in the top 100 technology companies are women. Only ten per cent of IT ministries are headed by women.



There needs to be a concerted effort to break stereotypes and put forward public role models, mentors and guides. For example, secondary schools should have guidance counselors, ideally female scientists who love their fields and are passionate about passing on knowledge and motivation. Women who have succeeded in the science and technology fields can thus help others to succeed.

'Leaky pipeline' phenomenon

The gender disparity in science starts early on in education and grows over time. Science and technology programmes have difficulty retaining girls and women because they are not as embracing and inclusive as they could be. There needs to be a concerted effort in recruitment, retention and promotion of women to the highest levels of science and technology. Countries must strengthen the links between education, science and the labour market.



Gender disparities in science and technology are particularly visible when women cross from educational to professional life. The 'leaky pipeline' phenomenon, whereby the further a woman advances in her scientific profession the lower the number of women peers, hampers progress. The leaky pipeline is due to a number of conditions: marginalisation, funding gaps, non-family friendly work environments and a lack of recognition.

Employers should create a better environment for women at work and provide a balanced working environment that will keep women working and advancing in their chosen professions, and not retreating to less demanding professional careers, part-time work or even non-professional employment.

The three E principle

The message that science and computer technology represent a good career choice is not reaching women. There is a widespread skills shortage in information and computer technology, and in some countries, such as the United States, there are more technology jobs than candidates to fill them.



Governments and institutions must:

- Entice** young people into sciences, especially girls and women;
- Employ** them through equitable processes; and
- Enable** them to progress by providing an environment that enables everyone.

The recruitment and retention of girls and women in science careers is a long-term economic and development strategy that goes beyond shorter-term political and economic cycles.

Science is the basis for the development of a nation. We must do more to inspire and encourage women and girls to lead and good education is the basis of everything.

Recommendations for action

- Ensure that educational policies encourage the enrolment of women in science, technology and innovation programmes in order to increase women's access to the socio-economic benefits of science and technology.
- Improve the participation of women in all countries in scientific and technological research, teaching and leadership by putting into place incentive programmes at the national level and involving parents, teacher and educators at every level.
- Include gender mainstreaming in science and technology strategies. Implement policies that support childcare, equal pay and gender mainstreaming by putting into place appropriate legislation and enforcement.
- Involve teachers and the education system at all steps of the way.
- Provide role models for girls and women to help change parental and teacher attitudes.



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