Gender balance for a stronger European economy: A look back at day two of the Ecsite Directors Forum 2012

By: Michael Creek, Science communication consultant, Brussels, Belgium

Ecsite Executive Director Catherine Franche presented the first keynote speaker of the day: Tricia Alegra Jenkins, whose presentation was entitled “Rocking the Balance or Rocking the Boat: the social inclusion agenda – an imperative for change or a box to tick?” Tricia Alegra Jenkins is the director at of the International Centre of Excellence in Educational Opportunities, principal investigator of the SiS Catalyst project and president of EUCUNET, the European Children’s University Network.

The International Centre of Excellence in Educational Opportunities at the University of Liverpool was created in 2010, and launched at the World Expo in Shanghai. Jenkins is not an academic, but a practitioner, and EUCUNET is a network of practitioners.

It’s a global phenomenon that in some streets, 8 out of 10 young people benefit from university, and in other streets, 8 out of 100 young people benefit from university. If you go to university, you’re more likely to have a secure job and live longer. It’s an indicator of economic and social advantage. The factors directly linked to going to university are: where you live, your family income, gender and ethnic background. In the UK less than 1% of children in public care progress to higher education, which Jenkins notes is a scandalous statistic.

Progression to higher education is more about culture than ability. In 2000 the University of Liverpool asked why they have no black British students in their medical faculty. They had many non-white people but who were largely children of medics. And yet Liverpool has a long-established black community. Jenkins asked black British high school students and their teachers. They said medicine is considered “posh”, and many students are put off. And yet at primary schools there were black British children who did want to be doctors. We see that by the age of 18, society has set young people on a specific route.

Europe is driven by the fear of not being a knowledge exchange economy. Losing boys from higher education is holding us back. We promote interconnected branches of learning. And yet many disciplines are very linear. Higher education sends that message down into schools, and secondary education is also geared to make young people progress into higher education. Children’s approach to science is based on curiosity – it doesn’t fit into this linear system. Governments’ approach to education systems can be compared to putting sticking plasters on a wound, one after the next, and then having this judged by inspectors.

Global problems need interdisciplinary solutions. The SiS Catalyst project looks at how to include children in the dialogue between science and society, including governance. Children don’t know why they are in schools. Children’s University activities focus on experiential learning. National, regional and institutional missions are now changing. SiS Catalyst is an MML European-funded project which tries to bring together actors to address a societal challenge. Students have an important role to play. Mobilising mutual learning means having a global impact. A schoolchild blogging about her school dinners can become a global change agent.

We are living in a tsunami of changes – we cannot say “don’t rock the boat.” It’s already being rocked. Jenkins opened the discussion by asking participants: what are you learning from children? How are you capturing and sharing it?

A Swedish participant expressed that the Swedish education system is also very much in need of this kind of change. Another delegate mentioned that Emily Dawson at King’s College London is working on social inclusion for ethnic minorities. She found that including other languages on exhibits can make a huge difference. Jenkins responded that languages and representation of role models make a big difference.

One delegate asked about the involvement of science centres in SiS Catalyst and asked about best practices. Jenkins responded that this is not a best practice guide – the aim is to learn about learning. Science centres can provide the inspiration young people need to engage with the substance of science.

Another asked Jenkins to share how science centres could be more inclusive. Jenkins replied that Zoom in Vienna and La Trobe University in Melbourne have been doing some interesting work. La Trobe identified a group of children that had the potential to come to university and ran a programme to get them there. Those children are now advising the university. Intermediaries are fundamental, and children have to understand what’s in it for them, and that they are being listened to.

A comment added that science centres have to listen to children, but also the children that we all have inside of us. Another stated that in science centres, we talk about getting young people to come to the centre. In academia, engagement is not always discussed in terms of physical meeting places. Are we losing them? Jenkins replied that learning is local, and not global. Learning can be shared globally but it takes place in physical space. Kinder Uni in Vienna took their activities out to local communities. Science centres can get children to judge spaces as to whether they find them welcoming and comfortable. One participant asked whether young people are able to say what they find welcoming or comfortable. Jenkins suggested using intermediaries, for example teenagers, who can engage young people more easily.

For the day’s second keynote speech, Marzia Mazzonetto, Projects Coordinator of Ecsite, introduced Caroline Roughneen, the director and founder of WiSER, the Centre for Women in Science and Engineering Research at Trinity College, Dublin.

WiSER was founded in 2006 when the Harvard University president at the time stated that women are underrepresented in STEM because to be an “excellent” scientist, you have to work 70-80 hours a week, and he suggested that women couldn’t devote the time. He felt women did not have the cognitive ability. This speech provoked a significant reaction and brought the conversation about gender in STEM to the forefront. Roughneen decided to set about studying whether there is a gender issue in Trinity College Dublin. She asked the funders to commit to action, and she set up WiSER to enable this.

Across all disciplines, EU-wide, a gender gap appears at higher levels of education. In science and engineering, the gap is present from the beginning and simply gets bigger at higher levels. Why does this matter to research? We need a robust, sustainable economy during these times of crisis. Research and innovation drive this economy and Europe is competing with new emerging markets. The EU wants to stimulate “smart, sustainable and inclusive growth” as part of the 2020 strategy. The number of researchers across Europe

needs to increase by a million. It's supply and demand. The economic argument is therefore that female human capital has to be deployed more effectively.

Women were not brought into research with aspirin, and it wasn't found that aspirin can thin women's blood to a dangerous level. Voice and language recognition tools were also not tested on women, and didn't work on higher voices. Likewise with crash test dummies – the original tests were only made on male physiologies. Taking women's blood samples takes longer and so it put researchers off using women's blood for testing certain drugs.

Does it matter to us what gender a baby is? It's one of the first questions we ask new parents. We teach gender differences to our children in the way we raise them.

Why do women leave STEM? Lack of encouragement and support can be cited. Male researchers have more opportunities to attend conferences, for example, and women are more often invited into supporting roles. If women become mothers they are more likely to leave STEM. They can have a lack of career expectations. At the highest positions in STEM there is a risk of isolation and exclusion.

Societal perceptions and attitudes towards women in STEM also have an effect. Women are perceived as nurturers and carers, providers, for example. CVs in research are judged differently according to whether the name is male or female.

One participant pointed out that it is not shameful to have biases regarding gender, but it is shameful not to act on them.

Media also has an effect – among scientists appearing in TV, radio and print, only 25 were women, and on the news women were central in just 4% of cases.

A range of groups are responsible for addressing the gender gap, and they are all interconnected. Equality opportunities have to be ensured in legislation (like equality directives), through positive action (like mentoring programmes for women), and gender mainstreaming (integrating gender into all policies and practices, like gender action plans for universities).

In science museums, gender has to appear on the agenda both for staff and for visitors. A gender action plan requires leadership commitment, data collection, good practice review and bringing in gender knowledge from experts. There's no need to start from scratch – people are doing this, and these plans can be shared. It's a good reason for European cooperation. The Integer project is working on just this. The European Research Council has a gender action plan. So do the research councils in Sweden and Norway. In the UK, medical schools have to implement gender action plans before they can receive funding. Companies sign up to codes of best practices for women.

An action plan must include demonstrated leadership at the top. Gender policies have to be equal and effective. Communication has to be fair and open. Good working practices should be promoted. Professional development needs to be considered. Data collection is important. Museums need to rethink exhibits, programmes and audiences.

An MIT study showed that when equality laws were passed, numbers of women in science improved. A gender action plan improved the situation even further.

One participant compared the situation in STEM to careers like lawyers. Why has law changed as a field and not STEM? Roughneen responded that much work has been done in law too. Media representation changed more quickly with law.

Do science museums know how their institutions look at each level, in terms of gender divide? One participant stated that her institution in Paris does collect and analyze this data, including salaries as well as numbers of employees. A gender specialist is employed to keep senior management informed on gender issues and to give feedback on exhibitions.

A delegate stated that he felt that we are on the right path towards equality in STEM but that we are not there yet. The generational gap is already huge, and this will continue. But we need to push to ensure this happens. Quotas for boards of companies are one example of how to push. Another delegate said he didn't feel legislation was enough to ensure this; it has to be considered in other ways. Another stated that he found it paradoxical that the business community is ahead of the academic community, when they are usually considered to be more conservative.