

Proposal for G20 Osaka Summit Agenda on “Education for Creating Innovation” and “STI for SDGs”

We welcome the discussion on Education for Creating Innovation and more broadly on roadmaps of STI for SDGs at the coming G20 Osaka Summit. Science, Technology and Innovation (STI) can contribute to achieve the Goals, especially education (Goal 4).

We believe that the G20 could add value to the discussion on STI by highlighting how and on what ground can technologies and innovation in education work best for the most marginalized and to ensure “leave no one behind”. Concerning this point, we would like to ask the G20 leaders to consider the following four points:

1. Technology itself is not a panacea: G20 cannot ignore the deeper causes of learning crisis.

Technology may be key enablers for SDGs 4 (and other SDGs), but they are not a solution to educational change by themselves. It cannot be denied the rapid technological change, such as ICTs, IoT, AI, 3D printing, robotics and etc., can represent a significant opportunities for children and youth to change their learning and get better jobs, however, technology and education should be rather looked in the larger picture. What are urgently needed to improve the quality of education and learning are 1) well trained teachers, 2) innovative transformation in education system at all aspects, and 3) substantially increased investments in the education sector which enable 1) and 2). Without those, any technologies will not work to improve learning, and transformation to achieve SDGs 4 will not happen.

It should be made clear that the problems are not in technologies in themselves, the main concern is frontier technologies are “iconized”, as if technologies and technological innovations are automatically or independently enablers of transformation, by frequently ignoring or setting aside the deeper causes of learning crisis, such as scarce resources for education. We cannot waste time and resources in technology driven solutions that may work in short-term or limited area (such as in some pilot projects).

2. G20 should design innovative “STI for SDGs” in equitable way.

“Most of the benefits of science are unevenly distributed, as a result of structural asymmetries among countries, regions and social groups, and between the sexes. As scientific knowledge has become a crucial factor in the production of wealth, so its distribution has become more inequitable. What distinguishes the poor (be it people or countries) from the rich is not only that they have fewer assets, but also that they are largely excluded from the creation and the benefits of scientific knowledge.” – Preamble, Declaration of the Budapest World Science Forum 2011 on a New Era of Global Science

The biggest challenge for us to use STI to empower children and youth, and to ensure inclusiveness and equality. There is concern over social divides and inequality; how can we utilize new technologies, which are expensive, need infrastructure to be connected and for electricity, need knowledge and skills to use and maintenance, for the poorest and most marginalized, those who cannot afford them, those living in rural area and places with little or no connectivity, those who are prevented from using technology because of gender, their ethnicity or their disabilities?

That is why we need innovation in education system (and institution), beyond just technological innovation. In order to bring influences on the central principle of the 2030 Agenda of “Leave No One Behind”, education system should be transformed into more equitable one in innovative ways including gaining leadership and changing decision making processes, improving curriculum, establishing evidence-based performance assessment methodologies, adopting incentives for teachers, improving accessibility for marginalized group such as girls/women, children with disabilities. All these examples for innovation need clear political leadership and will and enough investments, not necessarily new and cutting-edge technologies.

3. **G20 need to ensure that local contexts are not ignored in introducing any educational technologies.**

Any educational technologies and ICTs for education interventions suggested for use especially in deprived locations and situations should be appropriate for the contexts where they are deployed. It is imperative to understand the wider cultural context of a country or community, and technologies should be implemented in line with the local curriculum, instead of introducing a one-size-fits-all types of curriculum in any places. To neglect alignment with local reality, context and curriculum will lead that the class contents may not be relevant for children and may also increase the workload of teachers.

4. **G20 need to ensure that right to education is protected in private sector activities**

Educational technology or use of ICT for educational purposes had become a key area of engagement of the private sector. In some developing countries, global private firms have been contracted by governments to deliver low-cost education with digital technology. G20 should ensure that private sector activities not to violate right to education, to protect appropriate labor practice for teachers and school staff, and to meet national standards for education.

The G20 Osaka Summit is a unique opportunity for G20 leaders to discuss how STI can contribute to SDG 4. We have high expectations of G20 leaders to show their leadership on realization of quality education for all.