

1. Introduction

While we are here in this meeting, an electric car, launched by the most powerful operational rocket, is cruising space with the purpose of revolutionizing the aerospace market. Humans are using the equivalent of 1.6 Earths to provide the resources we use and absorb our waste. Currents trends, as exposed by the World Economic Forum (2016) report “Future of Jobs”, are leading to the loss of 7.1 million jobs by 2020. More than half of the children in school today will work in "jobs that are radically different- many of which may not even exist yet - challenging us to consider what educators and policymakers should do to prepare for this uncertain future" (Bakhshi, Downing, Osborne and Schneider, 2017). In a world that is showing such unprecedented rhythm of change and flow of information, the question all governments and decision makers are facing within the education system is:

**What is the role of education
in the 21st century?**

Quality of Education is the fourth of the seventeen goals defined by United Nations to transform the world. The goal intention is linked to access and quality: “Ensure inclusive and quality education for all and promote lifelong learning”. In this regard, some of the facts and figures that lead to the definition of the goal are:

- **Enrollment** in primary education in developing countries has reached 91 percent but 57 million children remain out of school
- An estimated 50 percent of out-of-school children of primary school age live in **conflict-affected areas**
- 103 million youth worldwide **lack basic literacy skills**, and more than 60 percent of them are women

Other important facts that we could add to the ones mentioned above are:

- More than half of the children in school today will work in "jobs that are radically different from today - many of which may not even exist yet - challenging us to consider what educators and policymakers should do to

prepare for this uncertain future"(Bakhshi, Downing, Osborne and Schneider, 2017),

- About 264 million children and youth are out of school, according to the UNESCO Institute for Statistics' (UIS') data for the school year ending in 2015.
- Jobs that require routine manual and thinking skills are giving way to jobs that involve higher levels of knowledge and applied skills, like expert thinking and complex communicating (Trilling & Fadel 2009)
- In the world's poorest countries, nearly one in four children are engaged in work that is potentially harmful to their health (UNICEF, 2017)
- In developing countries, the gap in primary school completion rates between the richest and the poorest children is more than 30% points.

The purpose of education has changed over the last decades. Our first suggestion is to start by reflecting upon the contemporary ultimate goal of education systems and analyzing how policies related to the goal deal explicitly and implicitly with different issues such as inequality, diversity, and quality in education.

Some questions that may help us lead the process are: What are we preparing students for? Is it for social mobility (the possibility of moving upward through the social structure)? Is it for the labor market? For preparing them to become active and committed social citizens? In this sense, the first question we should discuss is:

What is the goal of education?

1. Objectives

Education is the major collective experiment of humanity and one of the most challenging issues of contemporary society. Schools are embedded within larger structures that set parameters that shape the nature of interactions and experiences (Lewis & Diamond, 2015) and, in many cases, reproduce inequality by perpetuating social stratification and divisions. This Task Force intention is to open the discussion around the demands that this century is bringing for education and

the possible public policies for promoting relevant and significant learning through social justice (which implies decreasing the influence of disadvantaged backgrounds characteristics over school trajectories and outcomes).

The Education and Skills for the 21st Century Task Force will focus on the most pressing issues and trends in today's education systems and its interactions with other sectors and areas of human development.

Education is the major collective experiment of humanity, and one of the most challenging aims. Policy suggestions and projects that address the issues related to this Task Force should include the perspective of various stakeholders that have connections with the Education and Training world and consider different options on promoting relevant and significant learning.

We aim to trigger the dialogue and information exchange for young delegates to generate informed and relevant policy suggestions, as well as promote public and social innovation projects on the matter. During the Y20 process we expect to:

1. Reach a common understanding of what the purpose of education is.
 2. Define what is worth teaching and learning (based on evidence) in relation to the established purpose of education.
 3. Identify the role of the different stakeholders involved in education processes.
 4. Propose a series of public policies based on the goals defined and design a theory of action to bridge the gap between policy and practice.
 5. Propose a series of social and public innovation projects that can be carried out by individuals, organisations and communities to face the challenges and trends related to the future of education and skills training.
1. Provide information to the governments to complement traditional education data, by leveraging alternative data sources adapted to the 21st century needs.

2. Current Trends, Challenges and Opportunities

2.1. Reducing Inequality

Education is normally perceived as a powerful equalizer that bridges individuals with economic opportunities and well-being. Most research about the link

between some measure of schooling and the degree of income inequality conclude that an increase in mean schooling reduces income inequality and that there is a direct relation between inequality of schooling and inequality of income (Ram, 1990).

From a worldwide perspective, reducing inequality in access to schooling became a key concern (Ram, 1990) as the rise of globalization (that includes divergent and polarized points of view) generated debate whether it came at the cost of growing inequality (Mills, 2009).

Inequality in education outcomes can be identified in two levels: quantitative and qualitative. Quantitative refers to the degree a school level is not universal; an example is high school completion in the first half of the 20th century. Qualitative refers to the quality of education and options within universal levels. Socioeconomic advantages allow groups within society to use their advantages in order to secure quantitative and qualitatively better education (Lucas, 2001) Uneven academic outcomes based on race, social class or gender show that there is a reflection to be done in terms of the goal of education within societies as schools adopted highly stratified structures (Labaree, 1997). One of its expressions is the emerging hierarchy of levels and its upward expansion; the other is linked to qualitative distinctions between schools within each level.

Life expectancy and school participation increase with the income of each country. In this context, the Human Development Index (HDI) developed by the United Nations Development Programme (UNDP) introduced a new perspective in terms of criteria for assessing the development of countries. Its components include life expectancy at birth, expected years of schooling, mean years of schooling, and gross national income per capita (GNI). The long and healthy life and knowledge dimensions are included to the measurement, as GNI indicator by itself does not explain fully what has to be measured and observed in order to promote and encourage human development. In terms of inequality within countries, the public sector plays a crucial role. Some of the indicators that provide insight about educational priorities are the estimation of educational expenditures per student, level of education per student and the number of students per teacher per level of education (Frankema, 2008)

Data released in 2017 by the UNESCO Institute for Statistics (UIS) shows that 617 million children and adolescents worldwide are not reaching minimum proficiency levels in reading and mathematics. The most alarming fact is that that two-thirds of the kids who are not learning are in fact in school. Of the 387 million primary

school-age children unable to read proficiently, 262 million (or 68%) are in school. There are also about 137 million adolescents of lower secondary school age unable to read proficiently, even though they are in school.

Resources:

- World Inequality Database on Education
<https://www.education-inequalities.org/>
- Human Development Report 2016
http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf
- Pisa 2015 results
<https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf>

According to the United Nations 53% of the world's out-of-school children are girls and 2/3 of the illiterate people in the world are women. The gender inequality in education has effects not only in levels of economic development but in health, diet, fertility rates and access to jobs.

To what extent are these issues part of your education system? if they are not, what other issues can you identify?

Hint: some of the important indicators to be taken into account for this analysis are pupil/teacher ratio, average cost per pupil, geographical distance to school facilities, enrollment, drop-out, and national and international assessment.

2. What is worth teaching and learning in the 21st century?

After identifying the role of education, taking into account the characteristics of each particular context, we can think about what is worth teaching and learning and how to do it. Since the purpose of education shapes the elaboration of

curriculums and content standards it is important to think the relation of what is worth teaching and learning within the previously defined goal of education.

For this exercise, we suggest a tool that helps with policy design: *backward mapping*. In many cases, policy is thought from the top to the ground and separately from implementation processes (forward mapping). As Elmore (1980) research reveals, one of the most important issues that rises from the forward mapping is the belief that policymakers are the ones who control organizational, political, and technological processes of implementation. On the contrary, backward mapping strategy proposes a different logic as it starts with the last possible stage in the lowest level of the processes. In terms of education, we could backward map the process of elaborating policies in the following order:



Teaching and Learning

The trends lead us to consider the opportunities for an education system that develops skills alongside teaching content, encouraging students to become active and life-long learners. But at the same time, data suggests that current school systems around the world are struggling to achieve basic learning outcomes. Even in the most developed countries, secondary education has the highest dropout rate, especially among most vulnerable communities. The discussion around quality education faces two main questions: *what* and *how* to teach in order to make learning meaningful, useful and relevant.

- *What should schools teach and learn?*

Critical thinking, problem-solving, resilience, communication, creativity, empathy, and collaboration are some of the most mentioned skills that experts from all around the world are considering to be fundamental for life and professional development on the 21st century. Perkins (2014) exposes that schools are teaching a lot of things that are not going to matter in the students' lives. There have been long and complex discussions regarding school curriculums, basic content and skills for what Perkins (2014) explains as educating for the unknown.

- *How should schools teach and learn?*

Schools have changed drastically over the last decades. Globalization, migration, technology, research discoveries, and new forms of interaction are some of the elements that forced the need of change in terms of instruction. School organization and classroom policies of traditional education were defined in the base of the needs of industrialization and a different society. Teacher preparation and classroom strategies differ widely across cultures and the different contexts.

In accordance with the established goal for education, available research, empirical evidence and your own education experience: What knowledge, capabilities and skills should school guarantee? How should instruction look like in the contemporary societies?

School leadership and organization

School organization has an important role influencing teaching and learning. Some of the important elements included are school size, use of space and time, support of students, reward structure, disciplinary environment, parent participation, and community involvement. What organizational strategies within the school will facilitate the desired goals for teaching and learning? Research shows that the quality of the principal's leadership is a critical factor in determining whether the school moves forward to improve learning opportunities for students (Sebrina & Bryk, 2000; Bryk, 2010; Leithwood & Riehl, 2003; Printy 2010).

What type of school leadership and organisation we need to guarantee the expected outcomes?

3. How do we translate intentions into policy and bridge the gap between policy and practice?

If we follow the steps of backward mapping, after reflecting about what is worth teaching and learning and what school organization is necessary for significant and relevant school trajectories, we can think about state and national policies that promote and encourage its effective practice. Policy and practice, many times, are portrayed in conflict as policy makers (who define the problem and device remedies but are not the problem solvers) rely on practitioners who might respond differently from what is expected. This is what we perceive as the gap between intention and reality or policy and implementation. The allocation and

regulation of resources for itself is not effective if there is no cultivation of the practitioners' use of policy. However, practitioners depend on policy makers for the resources (ideas, incentives, money) that may enable solutions (Cohen, Moffit & Goldin, 2007)

Taking into account your understanding of what is worth teaching and learning, and what school organisation is needed, what policies do you think will best suit and guarantee the process? And what social innovation projects can have a positive impact on this transition?

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