

# FUTURE OF WORK AND EDUCATION FOR THE DIGITAL AGE

## Financing Quality and Equitable Education in LATAM

Javier González, SUMMA  
Santiago Cueto, GRADE  
Alejandra Cardini, CIPPEC  
Bárbara Flores, SUMMA

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## Abstract

*Education learning outcomes in low and middle-income countries are still insufficient and unequally distributed. Several factors are behind this situation, many of which relate to education funding: low absolute expenditure per student; increasing gaps in spending levels between developed and developing countries; unequal distribution of key education inputs; inefficient use of pedagogical resources and low levels of innovation; inadequate political economy frameworks, in which rich individuals are incentivised to opt out of an already weakened public sector. Recommendations to deal with these problems are presented in order to provide not only more investment, but also a more effective and equitable use of resources.*

## Challenge

While access to education has improved significantly in Latin America and the Caribbean (LATAM), levels of learning are still insufficient and unequally distributed. Several factors related to education funding are behind this situation:

- **Absolute per-student spending is insufficient and below than expected according to LATAM's economic development.** Although in Latin America during the first decade of the XXI century public investment in education has increased substantially, both in real terms and as a percentage of GDP (Rivas, 2015), average expenditure per student is still significantly lower than in OECD countries. While the average annual expenditure per student in OECD countries is US\$9,258, it only reaches US\$4,076 in Chile, US\$3,824 in Brazil, US\$2,877 in Mexico and US\$2,459 in Colombia (OECD, 2016). This is relevant since comparative evidence at secondary education shows that there is a strong relationship between learning outcomes and expenditure, up to US\$8,000 per student per year (Vegas and Coffin, 2015).
- **The gap in per-student spending levels is increasing between developing and developed countries.** Although Latin American countries have increased the levels of absolute public expenditure in education in the last two decades, the rate of growth has been lower than the one observed in leading developed countries. For example, the annual per-student expenditure gap between Finland and Chile increased from US\$2,995 in 2000 to US\$5,116 in 2013 (SUMMA, 2017).
- **The distribution of key education inputs is unequal across schools within Latin American countries.** There is an unequal distribution of the



education workforce, infrastructure, pedagogical materials, ICT, and funding, among other resources, between different social groups, in terms of socioeconomic status, geographic areas, and ethnic origin. For example, Bos et al. (2016), based on PISA 2015, show that richer students are consistently exposed to more teaching hours and have better-qualified teachers than their poorer peers. They also find that in most LATAM countries, headmasters in low-income schools declare higher levels of concern about the low quality of their staff, infrastructure and pedagogical materials, than their peers from high-income schools. Furthermore, in some cases there is a lack of positive discrimination mechanisms to prioritize low-income students. For instance, a study conducted by CIPPEC in Argentina shows that most educational supplies (free meals, experienced principals, textbooks, computers, among others) are distributed homogeneously, without taking into account the heterogenous socioeconomic composition and needs of students at recipient schools (Bezem, 2012).

- **The use of resources is inefficient and schools show low levels of pedagogical innovation.** Research has evidenced high rates of teacher absenteeism and bureaucratic decision-making processes unable to deal with the increasing complexity of the education system (Hanushek, 2001; Murray, Evans and Schwab, 1998). Furthermore, education systems experience low levels of innovation and insufficient use of effective pedagogical practices in the classroom, such as feedback, collaborative learning, metacognition, etc. (Jacob and Parkinson, 2015; Johnson et al., 2000; Kingston and Nash, 2011).
- **Inadequate and ineffective institutional frameworks hinder education systems:** institutional economics shows the importance of institutions, understood as formal and informal rules, for the determination of property rights, collaboration/competition dynamics, transaction costs, and social outcomes and their distribution (Acemoglu and Robinson, 2012; Knight, 1992; North, 1990). These rules, especially those embodying public regulations, have a strong impact on education systems. Indeed, institutions that promote deregulation, marketisation and privatisation of the education sector, fostering student selection, vouchers and cost-sharing schemes to fund primary and secondary education, have had tangible negative effects on education outcomes, both in terms of equity and quality in the region due to relevant market failures (González, 2017).



## Proposal

Given the above challenges actions should be taken on several fronts.

### **Proposal 1: Increase investment through domestic taxation and reduction of evasion**

G20 leaders should encourage governments to invest more resources per student due to the high social rates of return of education. This investment should prioritize early childhood education. In order to achieve this goal, governments need to increase their education budget, through lower tax evasion and higher direct taxes, which are low in LATAM compared to OECD, even in historical perspective when controlling by GDP (González, 2018).

Increasing per student spending has been at the forefront of education policy discussions for years given the positive rates of returns from investment in education, which are observed across countries (Becker 1975, 1995; Psacharopoulos 1994, 1995; Cunha and Heckman 2007; Montenegro and Patrinos 2014). Furthermore, empirical evidence demonstrates that rates of return are particularly high at early years of education because what is learnt at that stage facilitates future learning. This dynamic complementarity has been documented by Heckman (2008) in his seminal paper on schools, skills and synapses. This evidence suggests that increasing per student spending should be a policy priority.

In order to finance the extra spending, it is not even necessary to implement a radical tax reform. In particular, governments could take advantage of several opportunities that are present in current tax systems. For example, reviewing the case of Chile, Arellano and Corbo (2013) argue that implementing an efficient tax and transfer system is feasible by improving the tax administration, reducing evasion and avoidance, and reducing exemptions, franchises and special regimes. Nonetheless, we should be aware that LATAM is lagging behind in terms of direct taxation, i.e. personal and corporate tax rates (Goñi et al., 2011). There is also a long way to go in the construction of more progressive tax systems in the region.

Then, the question is: what amount of per student spending should be publicly financed? Empirical research has shown that the positive correlation between level of education spending and student achievement is statistically significant up to a threshold of US\$8,000 per student annually (Vegas and Coffin, 2015). Above that level of spending, the association between expenditure and performance is not conclusive and experts recommend not focusing on resources, but in improving the way these are invested.



Also, the role of civil society organisations in monitoring progress towards investment goals and advocating for higher and more efficient investment should be fostered. The cases of *Todos pela Educacao* in Brazil and CIPPEC in Argentina are examples of effective advocacy in this direction.

## **Proposal 2: Promote policies that ensure equitable investments among students**

In order to ensure equitable quality education and improve the inputs distribution across schools and subnational districts, changes in education policies are necessary. In particular, G20 leaders should promote the implementation of differentiated subsidies according to the socioeconomic status of students. It is essential to establish focalization criteria to deliver extra funding to excluded groups and underperforming students. One example is the Chilean Preferential School Subsidy, which is delivered from the government to schools for each student who is identified as priority according to their socioeconomic status. Empirical research has found positive impact in reducing the socioeconomic achievement gap (Carrasco et al, 2015). It must be highlighted that this policy also provides a balanced mix between higher levels of autonomy and technical support to schools.

In several Latin American countries, research has shown that a child who is born in a family that is poor, indigenous, lives in a rural area, has a mother with little or no education, or a combination of these, will surely attend schools that are of poorer quality (public or private) and will have lower educational outcomes (e.g. achievement in standardized tests) than their peers. For example, in Peru the Young Lives longitudinal study has followed a cohort of children from age 1 year until they turned 15. Another cohort, seven years older, was also followed up to age 22 years.<sup>1</sup> The study shows that by age five, there were already large gaps between children who were poor and non-poor. These gaps are reduced only slightly after several years of schooling (Cueto et al, 2016). One group that has received little attention from research or policy are children with disabilities, who are in many cases excluded from schools or if included, segregated in special education schools or attend schools with no specialized teachers. As a result, it is paramount to strongly invest in pre and in-service teacher training to guarantee that they acquire the necessary pedagogical skills needed to adequately face increasingly higher levels of student diversity in the classroom.

Another dimension of inequitable investment occurs in federal countries, where the gaps between jurisdictions result in unfair schemes of teacher retribution and other types of investment. In Argentina, for example, historically-rooted fiscal inequities are

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<sup>1</sup> For more information about the study and publications, see <http://younglives.org.uk>.



mirrored by inequities in educational investment, as a result of which some provinces invest per student almost five times more than others (Rivas & Dborkin, 2018). The compensatory role of National states in these cases is necessary to build a more homogeneous map of educational investment.

Finally, full participation of students is yet another challenge that countries in LATAM must face in order to reduce gaps in access and learning. In many LATAM countries there is a need for further investments and programs to reduce school dropout rates and tackle those who abandon school. Conditional cash transfer programs have played a role in increasing coverage and attendance, and reducing dropouts, particularly in secondary schools, although the effects seem small (Garcia & Saavedra, 2017). Moreover, there is still a need to invest in the education and development of skills of those who have not completed secondary education. According to data from UNESCO from 2015, there are 3 million children out of school in primary schools and 10 million children out of secondary schools in LATAM (UNESCO, 2017).

### **Proposal 3: Encourage the efficient use of resources, promoting effective pedagogical practices**

In order to maximize the efficient use of public resources, policy-makers should encourage the implementation of effective pedagogical practices, which have proved to be effective to improve students learning at a low cost.

In terms of pedagogical practices, innovation based on evidence is crucial. SUMMA and the Education Endowment Foundation (EEF) have been working together in synthesising global and LATAM regional evidence regarding pedagogical strategies that have considerable impact on learning outcomes. Based on more than 10,000 academic articles and 200 meta-analysis, several key classroom strategies have been identified. Among the most cost effective, it is important to highlight two strategies: i) Collaborative Learning and ii) Feedback.

Collaborative Learning develops a strategy in which students work together in small groups in order to develop learning tasks or activities. This model incentivizes participation and collaboration among students to reach a common objective. In the case of Feedback, the practice consists in giving information to the learner and/or the teacher about the learner's performance relative to learning goals. The aim is to redirect actions in order to align efforts and activities. Empirical evidence demonstrates that this practice has a positive impact. In fact, compared to a control group, students whose teacher provides adequate and timely feedback tend to progress 8 additional months in an academic year in terms of their learning outcomes. Moreover, this practice is one of the cheapest to implement, among more than 30 identified strategies (SUMMA, 2018).



G20 leaders should promote focusing schools' resources on these and other effective practices to allow LATAM countries to catch up several additional months a year, allowing them to get on track. Nevertheless, this is not likely to happen by itself. Governments should commit to push forward a national agenda addressing the most relevant and pertinent practices for each locality, providing resources and technical advice for a successful implementation.

Additionally, G20 leaders should encourage governments to increase the access to information and communication technologies (ICTs). The use of technology in education is a popular measure among governments, although research shows that just providing technology, without considerations to pedagogical planning, will not deliver higher levels of learning. Thus, use of technology under a guided and blended model would seem to be more promising (Arias & Cristia, 2014).

#### **Proposal 4: Establish adequate and effective institutional frameworks in education**

Current evidence suggests the need to promote national policies that strengthen public education and collaboration among schools, instead of privatisation and competition. Rather than competition, cooperation networks among schools seem to be a crucial factor behind quality improvement (Muijs, 2010). Comparative evidence shows that when these networks exist, schools help each other to improve (Hill and Matthews, 2010). Together they are able to discuss a wide array of relevant topics, evaluate each other in order to identify weaknesses, and most importantly, they share resources, experiences and strategies leading to quality improvement. Therefore, G20 leaders should actively promote a change of the prevailing education paradigm, in order to foster more collaborative school systems.

Students in many LATAM countries would also benefit from integrated interventions, that combine programs at school with others addressing nutrition, health, and the reduction of poverty. Perhaps the first obstacle to achieve this is the lack of integrated information systems; thus, we propose to strengthen these systems.

Also, countries would benefit from educational pilot projects that are rigorously tested and carefully expanded. An example is the MINEDU Lab, developed by the Ministry of Education in Peru, which has carefully tested a number of interventions in that country, in collaboration with partners from the academia and private sector.<sup>2</sup> In most countries, there is little support for educational research, either from the government or the private sector. Developing capacity to do high-quality and policy-relevant research would also be beneficial to students.

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<sup>2</sup> For more information about MINEDU Lab see <http://www.minedu.gob.pe/minedulab/>, although information is in Spanish.



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