

Learning and Opportunities Series

# Learning Under the Magnifying Glass:

New Perspectives for Latin America and the Caribbean



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Learning Under the Magnifying Glass: New Perspectives for Latin America and the Caribbean

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# Preface

The core mandate of UNICEF in the field of education is to ensure the fulfilment of the right to education for all children and adolescents. This means guaranteeing their access to education and ensuring the acquisition of skills and competencies that will allow them to achieve a full, happy and productive life throughout their development cycle. The UNICEF mandate is in line with the Sustainable Development Goals (SDGs), which call for education to be inclusive, equitable, high quality and to promote lifelong learning opportunities for all.

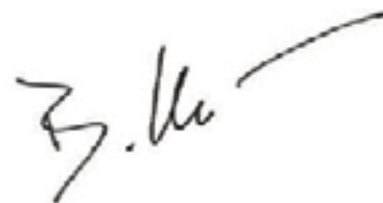
In Latin American and Caribbean (LAC) countries in the last few decades, there has been undeniable advancement in expanding the right to education for all children and adolescents. Nevertheless, many of the education systems in the region continue to face challenges. For example, 21 million children and adolescents remain outside the school system or at risk of dropping out. Furthermore, assessments of education have revealed that significant differences in academic achievement and quality of instruction and knowledge still exist between social classes, indicating that universal equity in education is not yet a reality. In this context, it is essential to think about new education paradigms to achieve true educational inclusion for all.

The UNICEF Latin America and Caribbean Regional Office (LACRO) works with the governments in the region to seek better education opportunities for all children and adolescents without exception. As part of this commitment, LACRO supports the development of evidence that will allow decision-makers and educational stakeholders to implement more effective and equitable public policies.

“Learning Under the Magnifying Glass: New Perspectives for Latin America and the Caribbean” in the UNICEF LACRO series “Learning and Opportunities” seeks to identify scientific advances, proposals and experiences to improve learning opportunities for children and adolescents in the region.

This document, written by Latin American authors intimately familiar with the characteristics of the region and its education systems, asserts that a fundamental change in the education paradigm is necessary to overcome educational exclusion. This paradigm shift is occurring in various innovative schools and educational settings throughout the region, some of which are analysed in this document.

Our hope is that this material will be used by policy-makers, teachers, researchers, and students and will serve as a basis for discussion about how to build better learning opportunities for children and adolescents in the region.



Bernt Aasen  
Regional Director  
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Francisco Benavides (Regional Education Advisor) and Gilmar Zambrana (Consultant on Learning and Innovation) of UNICEF LACRO supervised the content and editing of the document.

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# Executive Summary

## Executive Summary

Over the last decades, there has been a gradual increase in the enrolment rate in Latin America and the Caribbean (LAC); however, access to education continues to be unequal to the detriment of the most disadvantaged groups. Inclusion in education has not been achieved because there is no universal access to the same quality of education for all children, adolescents and youth.

Education in the region is in great need of transformation, and yet, the school systems in LAC have proven to be extremely reluctant to change. Proposals for change have been mostly for improvement rather than for profound innovation, and they have tended to offer “more of the same.” The strategies rarely question the embedded assumptions that prop up the structure of the traditional education model. It is now clear that radical changes are necessary and that reforming the old system is simply not enough.

In parallel to the educational crisis, profound changes and mutations are occurring in other fields in the region, such as politics, demography, economy and ecology, all of which affect education.

Complex and thoughtful change in education is needed, and while it may be difficult to precisely plan, we can already see the seeds of a new educational structure emerging that corresponds to the knowledge society.

## LAC Background

Historically, inequity and the concern for equal education have been recognized in LAC in both academic reports and in educational policy decisions. The region has advanced greatly in terms of access to information that describes educational injustice. Global statistical data of school enrolment,

dropout rates and grade repetition have allowed to better identify inequity between social sectors, races and gender in the region. However, there have been fewer empirical studies of the underlying mechanisms that cause this inequity across sectors, and it is this information which might help in the design of policies and strategies to overcome the problems.

Furthermore, descriptions of educational change in the region have focused on the macro level, and have been for the most part corrective, failing to modify the structural conditions of the traditional model.

## Towards an Alternative Vision

The current education model fails to respond to the needs of the region, which must embrace the knowledge economy. This requires a much broader understanding of the definition of “knowledge,” a student and learning centred approach, a focus on lifelong learning systems, flexibility in terms of setting and an enhanced profile of what it means to be an “educator.”

## Unique Characteristics of LAC

In the education systems of LAC, the tendency towards marginal and slow improvement is reaching its limit. A new education alternative must be designed taking into account the specific characteristics of the LAC region.

These characteristics include limited economic resources that make it impossible to finance a high-quality education for the entire population based on the traditional western model of education; a culturally heterogeneous population, which makes generalized training of teachers ill advised; and a predominant state model that is in need of reform, having been originally created for a homogeneous



culture. The reform of the state will require considering a decentralized education system and would likely require the overhaul of state ministries. Finally, the region is characterized by a lack of alternative thinking and political will to bring about deep changes in the education system. An intellectual movement is needed to challenge the status quo in terms of education in the region.

### **A Possible Framework**

Education reform will require the use of a different lens to identify emerging processes, answers or solutions. This different lens will allow the analysis of the complex process of education reform. Meanwhile, emerging solutions need to be examined from a standpoint of sustainability, pedagogy and organization.

A framework should place ample emphasis on moving from linear to complex thinking competencies for the 21st century. This has huge repercussions for what is learned, how and by whom it is taught and what tools are used.

The traditional education system operates on the basis of certain “rules” that no longer serve the reality of society or the population.

The traditional educational system’s insistence on uniformity must be replaced with an authentic embracing of different cultures, populations and individuals. A hierarchical education institution with rigid classroom dynamics must be transformed into a flexible system which adapts to specific and changing needs. A system that favours individual performance needs to change into one that encourages collaborative learning and the development of varied and complex networks. Finally, a system which insists on the physical

presence of a credentialed teacher must take into account technologies that do not require the physical presence of teacher or student and expand the definition of both.

### **Emerging Solutions: Ground-breaking experiences**

Identifying real experiences that break with the traditional education paradigm can help to imagine a different future education sector. These emerging solutions do not commonly occur within mainstream education systems and represent possible alternative models for populations that do not achieve good results within the conservative educational model.

Here, four inspiring cases from the region can serve as alternatives in the search for better learning opportunities for all children and adolescents in LAC: Learning Communities based on Tutoring Relationships in Mexico, the New School in Colombia, Service Learning projects in various countries in the region, and the use of Massive Open Online Course (MOOC) in Uruguay.

All four cases focus less on subject matter and rote memorization and more on student competencies and actively sought and processed knowledge applied in a solution-oriented way to specific problems in specific situations.

The reinvention of education is a long and complex task that requires many different inputs, that go beyond political discussion or academic exchange. Much more research and active experimentation will be required to make a lasting and significant change.

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# Introduction



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...education in LAC must take a leap into the 21st century and face a whole new set of goals; in fact, economic growth, social cohesion and cultural integration depend on it.

During the 1960s, LAC governments agreed to achieve a series of goals in education focused on increasing enrolment and decreasing differences in gender and geographical location (urban-rural). In the 1990s, objectives pertaining to quality, such as learning goals and competencies of the 21st century, were added as components of educational rights of a just society.

In the last 50 years, solid progress in increasing the right to education for all children and adolescents in LAC has been marginal despite increased investment in the education sector, demanding requirements for teacher qualification and important education reforms. The panorama in the region is complex: on one hand, there remain unmet aspirations from the past, and on the other, present and future challenges must be confronted.

These unmet or unfulfilled goals of the past century span a wide range of issues. For example, pre-primary to secondary education coverage has not yet been extended sufficiently to the most vulnerable groups, including women, indigenous people and populations with different needs; completion of studies rates by those who have access to school should be higher; the quality and results of teaching basic competencies needs improvement, particularly among the poorest sectors; teaching as a profession needs strengthening; and there needs to be greater autonomy on the part of decision-making teams in the field of education. In addition to these unfulfilled goals from the past, education in LAC must take a leap into the

21st century and face a whole new set of goals; in fact, economic growth, social cohesion and cultural integration depend on it.

Both, past and current agenda, requires formidable effort to put in place new proposals that help children, adolescents and adults develop competencies that allow them to be full members of society.

New answers must be sought. Unfortunately, the traditional education system has created and exacerbated many of the existing inequities. UNICEF sees two options: one, clearly unacceptable, is to “wait until the inertia and the impulse of what has already been done reaches all children and adolescents effectively;” the other, the only viable response, is to “intervene by accelerating the processes of inclusion.”

The second option implies to begin with a study of the current situation to identify both the positive aspects and barriers to improvement so that education can “fully act in favour of all, [including] those living in diverse or unjust situations” (UNICEF, 2012:16).

To effectively guarantee the right to education for children and adolescents, valid knowledge<sup>1</sup> must be shared with students in an equitable manner regardless of gender, social condition, ethnicity and location. This knowledge must then in turn contribute towards the development of a just society. Superficial changes in the education system are not enough. Furthermore, it is necessary to foster successful innovations and reinventing a social mechanism able to correct the structural flaws.

The education system of today was born in an historic moment in which the priority was to distribute knowledge. Since then, however, there has been a substantial change in the epistemological foundations of the type of knowledge to be transmitted, in the characteristics of the learners, in the way in which learning is organized, in the profession of teaching, and in the products it requires, among others. Continuing with an inefficient and out dated education system is as ineffective as trying to cure a disease today with the resources and hygiene standards of the 19th century.

Several alternative proposals for LAC education systems differ from the realities of the region, particularly in terms of the cultural foundation of the population and the availability of resources. Although these models are important, they cannot be adopted without adapting them to the particularities of the region. To discover organizational models that are viable and appropriate for this part of the world, profound reflection is needed. To enter the knowledge society, LAC requires models for the creation and sharing of knowledge that are efficient and socially valid, that look towards the future, and that take into account the historical, cultural, economic and financial circumstances that prevail in the region.

The transformation requires not only the participation of education actors but also the commitment of civil society and different organizations to guarantee a multidimensional understanding. The alliances between educational actors and civil society could improve learning opportunities for children and adolescents through the gathering of experiences, knowledge, skills and resources coming from different sectors. Achieving

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<sup>1</sup> “Valid knowledge” reflects conscious and unconscious social choices in agreement with the values and beliefs of the dominant groups in society (Apple, 1986).



# The transformation requires not only the participation of education actors but also the commitment of civil society and different organizations to guarantee a multidimensional understanding.

real change in the model of knowledge sharing is not a short or simple task.

This report seeks to identify and discuss new models of learning and educational equity from both a general perspective and from the perspective of the particular needs of ethnic populations, excluded groups and persons with different abilities.

The objectives of the report are:

- to identify and analyse the principles and models on which the traditional education

systems of the region have been structured and study the consequences in terms of public policy and learning;

- to examine the alternatives to the traditional system that better respond to the learning needs of children and adolescents;
- to observe how learning is conceptualized, acquired, measured and articulated;
- to acknowledge the challenges of implementing new models of learning that include populations outside the formal education system, such as some indigenous groups, some sections of the Afro-descendant population, internal migrants, and children and adolescents in marginal urban areas;
- to formulate recommendations that can guide UNICEF advocacy efforts so that the countries of the region can achieve national objectives and international commitments regarding the consolidation of an inclusive and high-quality education;
- to provide guidelines to develop an education agenda proposal for all children and adolescents in LAC.

The research that underpins this study, besides standard academic database journal articles, includes a review of publications of various agencies and organizations such as UNICEF, UNESCO, Organization of Ibero-American States (OIS) and Organization for Economic Cooperation and Development (OECD). The study aims to describe the educational reality in the countries that make up the LAC region.



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# 1. General Framework



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# 1. General Framework

In the last decades, there has been a gradual increase in the enrolment rate in LAC region; however, access to education continues to be unequal to the detriment of the most disadvantaged groups, and inclusion has yet to be achieved because there is no universal access to the same quality of education.

Although the field of education is in great need of transformation, the school system has proven reluctant to change. Proposals for change have resulted mostly in superficial improvement offering “more of the same” rather than profound innovation. In addition, these proposals for change have hardly questioned the established assumptions that structure the traditional education model.

The crisis in education is occurring at the same time as crises in various other sectors, such as politics, demography, economy and ecology, all which have an impact on education. Instead of reforming the old system, it must be replaced with a modern organizational model to teach socially valid knowledge and be nested in the reality of the knowledge society. The necessary change is, however, complex and profound. Although it is not possible to plan the transformation that must occur, it is feasible to encourage the change to be oriented towards the newly emerging organizational realities generated by the current knowledge society.

The gradual increase in the enrolment rate in LAC is the result of a significant increase in coverage, especially in primary and lower secondary education. Primary education has achieved almost universal coverage, while lower secondary education has achieved approximately 70 per cent coverage (ECLAC, 2011). In contrast, access to upper secondary education and post-secondary education, although improving, is significantly lower and is accessible to only a small number of students (ECLAC, 2011), with coverage rates still below 50 per cent.<sup>2</sup> This achievement, although insufficient, is

the result of a great deal of effort; the fact remains, however, that the gaps that we see in education cost the region US\$ 9 billion\* (ECLAC, 2011).

There has been considerable progress in educational coverage at the pre-primary level: in 1990, only 36 per cent of children aged 4 and 5 attended school, but by 2010, the figures had risen to 61 per cent. Nevertheless, significant inequality still exists in access to preschool education, ranging from almost universal enrolment in countries such as Argentina, Cuba and Mexico to coverage of only 30 per cent

<sup>2</sup> By one account, the education system still does not reach two out of every three students for the population aged 20 to 24 (Cf. Alfonso, M. et al., 2012).

\*The term billion is equivalent to a thousand million.

in countries like Guatemala, Honduras and the Dominican Republic. This disparity is still more noticeable when the comparison is between rural and urban areas.

However, despite substantial coverage in the preschool level, the quality of education is not always adequate. Schady (2012) points out that high quality education must begin at the preschool level and provides examples of interventions carried out mainly in the US. Nopo and Verdisco (2012) suggest that the low quality of preschool education is the main cause of the deficits that many students carry into their secondary education experiences. According to the authors, the low quality of preschool education is due to preschool teachers being less prepared than those in primary and secondary education; in fact, in their 2012 study, only 4.2 per cent of preschool teachers had completed higher education.

Another problem afflicting the region is school dropout. In roughly half of LAC countries, approximately 16 per cent of children drop out of school before completing their primary education, a percentage actually slightly lower than the average in developing countries; but in other LAC countries such as the Dominican Republic, El Salvador, Guatemala and Surinam, between 31 and 39 per cent of children drop out of primary school before completion. The highest percentage of dropouts is found in Nicaragua, at 56 per cent (OREALC/ UNESCO, 2015). The levels of grade repetition are also alarming. In 2000, the average repetition rate in primary education was 6.8 per cent in LAC countries; in 2010, it was still at 5 per cent. This means that approximately 1 out of 20 students repeat a grade each year.

The combined effect of repetition and late entry

to the school system contribute to a 9 per cent average over-age rate in primary education in LAC, although in countries such as Colombia, Brazil and Nicaragua, 21 per cent of the students entering primary school are older than the ideal age for entry (OREALC/UNESCO, 2015). Meanwhile, in education systems across the region, indigenous students are systematically among the most disadvantaged, a situation that is often increased in rural zones and by conditions of poverty. The persistence of cultural, pedagogical and institutional discriminatory patterns in education - as well as the implementation of linguistic and cultural assimilation policies - have made it difficult for indigenous students to reach their educational potential (OREALC/UNESCO, 2015).

In the last 30 years, education reforms in LAC have leaned toward the universalization and decentralization of primary and secondary education to encourage greater family and community participation in the schools. In the 1980s, the focus was on the universalization of basic education from the preschool to the secondary level. Since the 1990s, the emphasis has been on guaranteeing educational equity (Avalos, 2007). In LAC, there has been an extension of compulsory education from an average of 9-12 years of schooling (López, 2007); however, access to education continues to be unequal to the detriment of the most disadvantaged groups.

Educational inclusion has also remained elusive; there is no universal access to the same quality of education and there are still significant differences in the academic achievement among different social sectors as well as in the quality of the knowledge acquired. Most attempts to achieve greater equity have failed and have perpetuated educational exclusion due to gender differences and to the



It is widely known that many students in LAC have substandard skills, in great part due to “profound levels of inequality in educational opportunities for children from different social sectors”

detriment of other populations such as those with different capacities, those living in poverty, and those who are geographically isolated, such as rural populations and indigenous groups.

It is widely known that many students in LAC have substandard skills, in great part due to “profound levels of inequality in educational opportunities for children from different social classes” (Reimers, 2000; 23). Inequality is reproduced in the education system through the separation of schools for the wealthy and schools for the poor. Within the poorest social sectors, 12 out of every 100 children do not complete primary education, while only two out of every 100 children from affluent social families fail to finish. The completion rate for primary education is 96 per cent in urban areas in contrast to 85 per cent in rural areas. Among indigenous and afro-descendant groups, only 80 per cent complete primary education.

There is no simple recipe for transforming and improving the education system, but it must change to meet 21st century educational goals. Three new priorities differ from the 20th century focus on expanding education coverage. These are the improvement of the quality of primary education, citizenship building, and the expansion of coverage of lower and upper secondary education (Cabrol and Székely, 2012).

In LAC, improving secondary education is a priority with specific challenges. Today, education centres are much larger than they were in the past, and one consequence is greater curricular diversification. In addition, there are often serious problems of violence and discipline. Some students, especially adolescents, only attend secondary education because it is compulsory and are not fully engaged or motivated (Vaillant, 2009).

In order to transform the education system, the Economic Commission for Latin America and the Caribbean (ECLAC) lays out a double agenda. Alongside the still valid agenda of the 20th century of “coverage, access, timely progression and the conclusion of different education periods,” the Commission adds challenges for the 21st century to reduce “the digital gap” and “increase...the quality of teaching according to the new formative requirements of [a] knowledge society” (CEPAL, 2011: 85), pointing to the importance of Information and Communications Technologies (ICT) integration and teacher training.

While the most serious breaches in education quality are in the disadvantaged sectors, the low quality of education in LAC in general affects all social groups and contributes to the perpetuation of economic and cultural delays throughout the region. The percentage of LAC students in the highest Programme for International Student Assessment (PISA) quintile is far below that of developed countries. The data available on the results of improvement efforts indicates that it is easier to reduce inequality in the areas of access, infrastructure and resources than it is to reduce inequality in teaching practices and results (Reimers, 2000:24). Indeed, “the improvements in schooling continue to exceed those obtained in [actual] school progress, which shows the growing divergence between the quantitative and qualitative indicators of the progress in education” (Bokova, 2010: 45).

Furthermore, recent studies demonstrate that the labour market demands skills that differ from those promoted by the current education system. While the labour market values employees with “verbal

and written communication skills, critical thinking [and the] ability to engage in lifelong learning,” the education system actually continues to “[transmit] knowledge in a traditional manner with an emphasis on the memorization of information and facts instead of capacity development” (Cabrol and Székely, 2012: xi).

The transformation of the education system in LAC is about much more than simply access or completion; it is about the broader goal of ensuring that all humans can reach their full potential. In school, the hope is that “children and adolescents acquire knowledge that enables them to exercise full citizenship... [which is] only possible if they have access to a quality education system that guarantees conditions of equality” (SITEAL, 2010:115).

### 1.1 The Need for a Paradigm Shift

The school system is one of the institutional systems most reluctant to change. Most proposals for change have focused on superficial improvement rather than profound innovation, and the assumptions behind the traditional education model are rarely questioned. When proposals for change do address the assumptions behind the system, it is often in small enterprises located in a particular area or sector, isolated from the mainstream system and therefore of limited impact.<sup>3</sup> Despite good intentions, educational reforms have had little success in achieving the transformation that the system requires.

The challenge today is to move beyond an obsolete education model and encourage reforms and

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<sup>3</sup>The most notable case is perhaps the *escolanovista* movement in the first decades of the 20th century, which, despite diversification, did not acquire sufficient traction to modify mainstream education.

innovations nested in the current knowledge society to transmit complex thinking<sup>4</sup> to everyone in a just and equitable manner.

External societal or contextual changes always have an impact on an education system, as is evident in LAC. Besides technological advances and global media, in LAC, these changes include economic turmoil, food insecurity, water and energy shortages (Creamer, 2009) and demographic changes, including the movement of people. These societal transformations and issues reverberate in the school system and demand revision of the curricular content. For example, some content considered “classic” lacks relevance, and new content is not yet included in the curriculum. When the heterogeneity of the classroom is recognized, the need to modify both the methodology and the content of what is taught arises. These demands make the diverse tasks of a teacher even more challenging (Vaillant, 2012).

Educational institutions have not easily accommodated or adapted to the rapid and profound societal changes, and in most cases, have tried to force the existing system to adapt to the demands of a new context. Tiramonti (2011: 33) notes that the current school system has been used “to separate, classify, standardize, homogenize, differentiate and exclude those that do not adapt to the mould.” This model has resulted in increased cultural discrimination and exclusion. The author calls for a “change in the cultural paradigm of the school” which allows the inclusion of differences to overcome segregation and creates a new education identity “associated with its cultural function and

not merely the disciplining of a potentially risky population” (Tiramonti, 2011: 32-33).

A step in the right direction is to make appropriate educational and pedagogical adjustments to adapt learning opportunities to the way that young people think today. Technology has changed the organization of time and space, creating the need for more autonomous and cooperative learning, using investigation and discussion as well as a professional teacher who is capable of facilitating it.

## **1.2 Societal Demand for Knowledge: A Focus on Learning as opposed to Teaching**

Traditionally, the starting point of educational pedagogical and didactic reflection has been teaching. The first attempts to modify this perspective had little weight beyond specialized circles.<sup>5</sup> This changed with Fenstermacher (1989), who broke the “teaching-learning” dyad by defining the specific characteristics of each term. For Fenstermacher, teaching is the process by which a person possessing certain knowledge or skill attempts to transmit it to another person who initially lacks such knowledge or skill; learning is the result of the student’s effort, a direct consequence of the activity of studying.

It is not until the end of the 20th century that learning rather than teaching is placed at the centre, a shift that took place in part thanks to the development of cognitive psychology, advances in neuroscience, an understanding of the effect of emotions and the importance of feedback, among others (Dumont et al., 2010).

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<sup>4</sup> Here, the term “complex” is not used to describe a complicated or difficult process, but instead refers to an understanding of the world as a connected and intertwined, entity, a fabric composed of fine threads, as in *complexus*: “what is woven together.” (<[www.multiversidadreal.edu.mx/que-es-el-pensamiento-complejo.html](http://www.multiversidadreal.edu.mx/que-es-el-pensamiento-complejo.html)>).

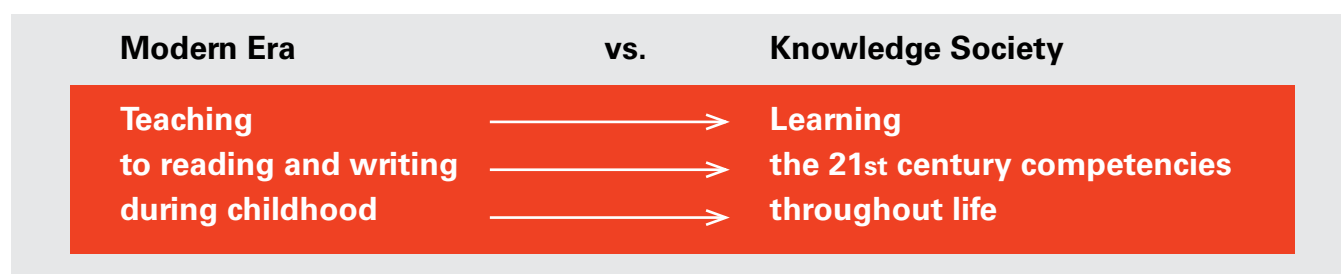
<sup>5</sup> The paidocentric revolution and the New School movement placed the child (the individual who learns) at the centre of education. The New School movement sought “to change the responsibility of education from the assignment of teachers to the self-activity of students, as well as redefine the roles of the institution and those who participate in it” (Feldman, 2010: 16).

The knowledge society, characterized by accelerated change, makes lifelong learning extremely important. Today, the education system must be geared toward learning throughout all of life. This exceeds the original education mandate that gave birth to the present school system, which was to teach basic literacy skills in a particular period of childhood. Indeed, the education system no longer fits with the reality of the world it is designed to serve. Today, “what we have... is of no use: the

structure of the school comes from a world that no longer exists” (García Huidoro, 2001: 217).

Now, the focus is shifting from teaching to learning; from initial literacy and basic knowledge to skills of the 21st century; from rote memorization and testing to competency based performance evaluation; and from a childhood and adolescent emphasis to learning throughout the entire lifespan<sup>6</sup> (See Box 1).

### Box 1. The Demand for Knowledge Distribution



### 1.3 From Crisis to Mutation

It is virtually impossible to address the changes that must occur with the conceptual tools that have been used up to the present time. Prophets of educational upheaval and change abound. Almost 15 years ago, José Joaquín Brunner predicted “a new educational revolution” and that both the environment and the purposes of education “are being transformed drastically and rapidly due to material and intellectual forces, which are found beyond the control of

the education community but whose effects are inevitable” (Brunner, 2000: 9).<sup>7</sup>

The changes in the environment are profound and pervasive enough to negate superficial education system “reforms.” The depth of these changes calls for a new vision, a reformulation of the problem and new alternatives. The unsatisfactory response of the school system in facing changes beyond its control is causing a crisis<sup>8</sup> in education, which is in turn reinforced by external crises, increasing the

<sup>6</sup> The term in English is Life Long Learning (LLL).

<sup>7</sup> The fourth educational revolution follows the previous three revolutions, which are 1) The beginning of school systems (1300-1750); 2. The emergence of state education systems (1750-1950); 3. Mass access of education (1950-2000).

<sup>8</sup> Creamer asserts that crises in a variety of areas have wide reaching impacts. He points out that food security, demographic changes, crises in energy and water shortages may all be sources of serious conflict. Creamer asks “what is the relation and synergy between them? How are they projected to the future? What are the hypothetical situations of a future global order? (Creamer, 2009:1). All of these simultaneous crises take place outside of education but profoundly affect it.

complexity of the problem. This calls for more profound changes in the education system than many may imagine.

Due to the rapid change taking place across the spectrum of societies in LAC, in some cases, it is possible to observe a shift from a crisis situation to a “mutation” situation, which is considerably different. Borrowing from the field of Biology, a crisis is defined as a considerable disruption in the development of a process, but it does not permanently affect the process; once it is over, the process returns to the pre-crisis norm. Mutation, in contrast, is much more profound. Mutations are alterations produced in a structure. In Biology, this would be a change in the number of genes or chromosomes of a living organism which are then transmitted to the descendants through inheritance. In other words, the system or organism is not the same after a mutation: an irreversible structural transformation is produced (Aguerrondo, 2008b: 70-71). Denis (2006) has identified mutation regarding political participation and Dubet (2006) has identified mutation in education.

In education, mutations are taking place in the system as various solutions are applied to attempt to curb the educational crisis. The challenge is to recognize which of these solutions<sup>9</sup> qualify as emerging solutions, that is to say, solutions that signal a new educational order where valid knowledge is equally available to all humans throughout life.

**In education, mutations are taking place in the system as various solutions are applied to attempt to curb the educational crisis.**

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<sup>9</sup> In Section 5 of this document, the concept of emerging solutions is explained within the theory of complexity.



## 2. Background: What has happened so far?





## 2. Background: What has happened so far?

Inequity and the concern for more just education have been acknowledged historically in LAC in both academic achievement and in educational policy decisions, and there have been significant advances in the availability of information describing educational injustice in LAC. The statistical analysis has shifted from a global perspective of school enrolment, dropout and repetition rates to a more sophisticated perspective, which takes into consideration the inequity between social sectors, races and genders. There is less progress, however, in the in-depth empirical analysis of the mechanisms that cause these results in the first place. Precisely this analysis of root causes could help in the design of concrete policies and strategies to overcome the problems of inequity.

In the first decade of this century, descriptions and reflections on the macro-level changes in the region's education statistics have been published. These changes are the result of strategies of education reform, some of which have existed in the region since the 1990s. However, little research has examined the content of these achievements. For the most part, the gains have been through corrective strategies rather than a modification of the structural conditions underpinning the traditional model. In the last two decades, there have been new education laws in almost all of the countries in the region. These laws are based on education as a right and propose higher achievement of goals for each new generation. Likewise, the emphasis on public policies in order to generate educational change has been accompanied by a re-emerging interest in education by the private sector.

The education system was born with the republican goal of overcoming injustices of origin and solving "natural" differences apparent in the organization of society. Although this objective was achieved to a certain extent, it became clear in the 1960s, 70s and 80s that social capitalist forces had corrupted good intentions.<sup>10</sup> The widespread growth of a particular

type of education in LAC had somehow contributed to its status as the least equal place on earth.<sup>11</sup>

The historical acknowledgement of existing inequity and the concern for more just education in the region leads to the hope that reflection and constructive discussion can identify opportunities to

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<sup>10</sup> These analyses emerged mainly in France and the US through Althusser on the ideological devices of the State theory. Baudelot and Establet on "two schooling networks;" and Bourdieu and Passeron on "cultural reproduction" in France. In the US, Bernstein stands on one side and Bowles and Gintis on the other with the "theory of correspondence."

<sup>11</sup> Latin America, with a 0.53 Gini coefficient, is the most unequal region on the planet —19 per cent more unequal than Sub-Saharan Africa, 37 per cent more unequal than East Asia, and 65 per cent more unequal than developed countries (Lustig, 2011). The economic, social, cultural and political gaps that appear between the rich and the poor, urban and rural, "indigenous" and "Western" people have become deeper over time, despite efforts to bridge them (Cuenca, 2012: 8).

achieve better learning for children and adolescents in Latin America and the Caribbean.

## 2.1 Academia

In any attempt to improve the education system, academics and experts in the field of education have provided the data. These studies of the education system have been both quantitative and qualitative, first to offer solid evidence of a lack of the right to education in the region and then to understand the processes and mechanisms that create inequality.

A panoramic view of the situation by Muñoz Izquierdo (2008) is a good place to begin. According to him, research on the education system in LAC has been primarily on three topics: 1) problems associated with education inputs and their transformation within the education sub-systems - in other words, internal efficiency; 2) problems associated with results of education sub-systems - external efficiency; and 3) problems associated with administration and control of education systems.

Research in the region has indeed raised the relevance of both global and specific educational injustice, and recent research has tended to take a more nuanced perspective, revealing inequities among social sectors, races and genders. There is, however, less advancement in studies of the mechanisms that cause these inequalities, and consequently less explanation. This makes accurate diagnosis and subsequent design of concrete policies to address the problem more difficult.

So far, researchers have not yet developed the instruments nor the data sources that allow them to elaborate with enough certainty or consistency possible solutions to the problems associated with the learning processes of students. In the literature,

many studies demonstrate a positive relationship between particular quality indicators and educational outcomes. However, these studies tend to use small samples or lack sufficient data to achieve convincing conclusions; therefore, certain findings may not be substantial enough to serve as a basis for change (Vaillant, 2012).

## 2.2 Reflections on Change Management

Another line of reflection by Latin American specialists is about the difficulty of change management in education, both at micro level – the classroom – and the educational institution. Since the 1990s, various strategies for education reform have been developed in LAC to solve the unmet or unfulfilled goals of the past. A decade later, these efforts unleashed a series of reflections about the difficulty of change management at the macro level.

These works focus mainly on an analysis of the process of change and the resistance to change along with determining the conditions necessary for it to occur. The few studies on the actual content of the change are focused on remediation of the traditional model of education rather than on structural change. Again, educational reform in LAC has tended to make changes within the same paradigm – a “more of the same” approach – and as a result, has produced improvements rather than profound changes (Vaillant, 2005).

In contrast, research reinforcing effective traditional practices at the classroom level abound. There are many examples of schools and teachers that have successfully altered methods and achieved results (Vaillant, 2005; 2009). These include the implementation of alternative didactic models on topics such as instructional leadership and effective

schools. Many of these proposals have shown good results at the micro level (schools, classrooms and teachers), however, with few exceptions, these alternative approaches have failed to have a real impact on mainstream thinking about the education system (García Huidobro, 2000).

The call for transformation, then, has been focused on the micro levels (schools, classrooms and teachers) of the system, with very little prospective reflection at the macro level about a new vision for education. It is evident that the school “has lost its significance,” but it is difficult to find academic reflection that shows an understanding of the complexity and depth of the changes that have taken place and that encourages civil society and other actors involved to collaboratively build an alternative vision for education.

Innovations that generate debate do not often arise from pedagogical reflection, but rather from other fields such as organizational theory (knowledge management, organizational learning), neuroscience

**Research in the region has indeed raised the relevance of both global and specific educational injustice.**

(brain development, learning ability) and epistemology (change in the scientific paradigm). Micro-level innovations do not have mobilizing effects that question the foundation of education, restate the didactic principles and generate new academic discussions.

## **2.3 Strategies for Improvement**

An analysis of the strategies for educational improvement carried out in recent decades in the region shows that efforts have been made either at the macro level in the modification of laws pertaining to education or in specific experiences with certain schools or districts using new change methodologies.

### **2.3.1 Modification of Education Laws**

As part of the process of educational reform implemented in almost every LAC country during the last two decades, new education laws have been issued. These laws are reflective of a new social and political scenario of “Education for All” defined in the Jomtien and Dakar summits. Education for all is based on three themes: a redefinition of the compulsory nature of education – which was extended – and the goals of universalization; the promotion of actions aimed to ensure quality education; and active policies of equity (UNICEF, 2008). Education is considered a right, and civil society is a key actor in its provision.

*López (2007: 51) claims that the laws governing education in LAC added in recent years give “a first impression that is encouraging: it can be argued that there are ‘good education laws in the region.’” But Lopez sees a gap between laws and actual practice in the region regarding the understanding of education as a right.*

*For example, mandatory secondary education laws are designed to encourage inclusion, and yet, Lopez pointedly asks, “Do these laws really express the interest of Latin American societies? Do the groups really want to ensure quality education for all? Are the inhabitants of the countries in the region convinced that absolutely all children, regardless of where they were born, should receive 12 or 13 years of quality education? Is there a real willingness to make the necessary efforts to achieve the outlined goals in each one of the national norms?”* It appears that today problems of education in the region are not necessarily a consequence of current regulations.

Another trend in educational reform involves advocating for private schools that use innovative methodologies. Initiatives of educational change have increased in the last decades, as reported in UNICEF and the National University of General Sarmiento publication “Opportunities to Learn” (2012). This report systematizes the innovative educational experiences in Argentina, Brazil, Chile, Colombia and Mexico and concludes that educational programmes and projects have indeed augmented in the last twenty years in addition to an “increase in the interaction between government, organizations of the third sector,<sup>12</sup> consortiums or corporate foundations, and [in agreements] between different agencies in what appears to be a sort of redistribution of actions that seek to reach other recipients through other modalities” (UNICEF/UNGS.2012: 56).

### 2.3.2 A Look at the Experiences of Improvement in the Region

While the school systems and schools in LAC continue to operate in a traditional manner, a look at the educational experiences within the region demonstrates that there have been many attempts at improvement of all types. This report examined dozens of programmes and projects designed with the objective of improving the quality of learning in students.

Case studies were chosen from Innovemos, the Educational Innovations Network for Latin America and the Caribbean managed by UNESCO.<sup>13</sup> This network serves as a database of educational initiatives organized under thematic areas: curricular development, professional development, institutional development, diversity and equity, education and labour, sustainable development, democracy and citizenship, and new technologies.<sup>14</sup> Web sites of diverse educational initiatives in LAC were also consulted.

The selected case studies reflect alternatives to the traditional system and seek to improve learning in children, adolescents and young people. Initiatives that include populations that fall outside of the formal education system. Initiatives that include some indigenous groups, some sectors of the afro-descendant populations, internal migrants, and children and adolescents from marginal urban zones were sought out.<sup>15</sup>

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<sup>12</sup> According to Paiva (2006), the main characteristic of a third sector institution is that it is “ ‘private but not lucrative’ and engages in public spaces to satisfy demands not satisfied either by the State or by the market... a highly diverse spectrum of organizations that act within the non-profit sector (Non-Governmental Organizations, Foundations, School Cafeterias, Cooperatives, etc.), [referred to] in different ways, such as: Non-Profit Sector, Social or Solidarity-based Economy, Third Way or Third Sector” (Paiva, 2006:99).

<sup>13</sup> See Innovemos (2014).

<sup>14</sup> Network members: coordinating team in OREALC/UNESCO Santiago; associated institutions from different countries, ministries of education, informal education programmes, regional and provincial bureaus, autonomous public organisms, NGOs, research centres, universities, teacher training institutes and municipalities, as well as individual or institutional subscribers.

A repository of innovative case studies has two objectives: to make new directions in education known to academics and decision-makers and to disseminate these innovative experiences among teachers and management teams so that they can serve as models. However, it should be noted that the information provided in the case studies is not adequate for use in an educational setting. The emphasis here is on mission and vision rather than precise methodology.

The case studies reveal the challenges faced by innovators who dare to modify the content, competencies, teaching and learning within the traditional educational format. It seems that innovation is achieved more easily when it is associated with new technologies such as ICT. Other interesting observation of case analysis is that many proposals include the family and the community in the learning process.

Ideally, efforts of educational change can be evaluated by two criteria: whether they result in profound change or mutation and whether they have been proven effective in a number of educational settings.

The term “innovation” can be defined in many ways. If it is defined strictly as progress toward a paradigm shift of profound structural change through mutation, then most of what is presented in the field of education is actually “improvement” rather than “innovation.” Added to this is the reality that many of these improvements have not been applied on a wide scale, so they may lack validity. Nevertheless, these case studies represent some of the most impressive alternative educational strategies in the region to date.

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<sup>15</sup> The categorization of Latin American initiatives is challenging because information is either not available or is limited. More in-depth study is required to identify viable practices.





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# Section Two:

## Towards an Alternative Vision

### 3. The Knowledge Society and Continuous Learning



### 3. The Knowledge Society and Continuous Learning

The capacities and competencies for the knowledge economy include objective, logical and rational knowledge (scientific knowledge) as well as other subjective, analogous or emotional elements, such as intuition, sensitivity and artistic expression. True educational equity requires a redesign of the education system into systems of lifelong learning, with an approach focused on the student and on learning both inside as well as outside of the school. Besides teachers, a redesigned educational system must include other actors such as volunteers, professionals, experts or even colleagues in a broadening of the educator's profile.

The obsolete nature of the traditional education model calls for the construction of an alternative vision of profound change in pedagogical and didactic assumptions. It calls for a mutation rather than a superficial change that only improves some aspects of education. It is human nature to frame the future in terms of trends of the past, making it difficult to imagine an alternative paradigm. The challenge is to find an entirely new way of thinking about education that overcomes persistent obstacles.

#### 3.1 Inclusive Education

Inclusive education cannot be understood solely as a widespread increase of access to education. Research clearly shows that inequity persists even when access to education is guaranteed. The right to education is the right to learn, so inclusion becomes more nuanced in meaning: it is providing significant educational opportunities relevant to the student context.

The commitment to building a more just society means providing equal opportunities of knowledge to all, regardless of gender, race or religion. For social justice to truly exist and for inclusion to become a reality, valid knowledge must be available. Physical attendance alone does not create inclusion, because even inside school, exclusion exists when there is no "opportunity to develop the processes of thinking that will allow the understanding, coexistence, and development in a complex world.... [Inclusion] requires not only offering placements in schools but also being able to guarantee the opportunity of significant learning for all students" (Aguerrondo, 2008b: 65).

Many experts concur that an important component of inclusion, in addition to access, is the quality of education (Villa and Duarte, 2002:15). On this theme, Aguerrondo (2008b: 64) distinguishes between equity as access and equity as the incorporation of knowledge. Today, school systems are struggling to provide equity that stems from



**“...[Inclusion] requires not only offering placements in schools but also being able to guarantee the opportunity of significant learning for all students.”**

valid knowledge. For Murillo (2005: 25), authentic inclusion means that the educational institution must achieve an “integrated development of all and every one of its students...taking into account their previous performance and the social, economic and cultural situation of the families.”

To avoid confusion between universalization and quality learning, there must be clear that the right to education is the right to learn (OREAL/UNESCO, 2007). Again, authentic inclusion means providing contextually relevant educational opportunities so that the learning is truly significant and has ongoing application throughout the life span.

Reimers (2000: 27) asserts that the importance of focusing on the valid knowledge aspect of inclusion is proven by the fact that those with less schooling generally have fewer opportunities to participate in the social and economic processes of the knowledge society. This social exclusion is a direct result of an unequal education system.

Among the authors that question how inclusion is conceived, Dussel (2000) asks whether a school system exists that actually wants to include all students; whether the current school organization has actually produced most of the current exclusions and how the education system can be re-examined, keeping the dream of educating all but avoiding the same injustices. Other author warns against equating the notions of equality and homogeneity. A vision of homogeneity sees differences as threats or deficiencies without understanding that each individual should have specific conditions and opportunities - different from others - for their learning (Zorilla, 2008: 132).

### **3.2 The Knowledge Society: Changes and Challenges**

Another dimension of inclusion is the student capacity to be integrated into the current productive world. The traditional educational model provided students with the necessary competencies for industrial society, which was based on serial production.

Now, however, instead of manufacturing, the economy is based on goods with high added value and information transformed into knowledge. In this new economy, “the transformations within the working organization are provoking not only the increase of inequality levels, but also the emergence of a new social phenomenon: the exclusion of participation in the production cycle” (Tedesco, 2000: 18)

The knowledge economy redefines the production factors that add value to society and indicates a transition towards production focused on science and technology with an intensive investment in advanced technology and/or higher education (Tedesco, 2000).

Of course, the notion of technology is not new as a knowledge base (Fajnzylber, 1989); the move from a pre-industrial to an industrial society was precisely possible because of invention and mechanization. Technological advances were not only evident in tangible products but also had an impact on organizational structure, demonstrated by the move from handicrafts to the division of labour practices in industrial manufacturing.

In the current economy, the speed with which knowledge is generated and transmitted makes it the most valuable property. In a knowledge society, unless lifelong learning takes place, a person is at risk of being left behind (Mateo, 2006).

The capacities and competencies for the knowledge society are broad and include subjective, analogous and emotional elements, such as intuition, sensitivity and artistic expression, not only empirical or scientific knowledge. Knowledge and information have always played an important role in the economy and in society, but now, "what is distinctive is that technologies are 'processes to be developed' and not 'tools to be applied'." Hence, the users are in a position to take control over them and to produce new goods, services, ideas and applications, as happens on the Internet. In turn, these changes feed into and produce ...the processes of globalization, which allow the quick diffusion of innovations, accelerating the world innovation movement" (Brunner, 2000: 51).

True educational equity supposes a redesign of the education system so that all children and adolescents have the opportunity to achieve significant learning and receive a quality education, taking into account the context in which they live. This does not appear to be possible within the current system, which considers the school system the only source of knowledge and seeks to

standardize performance rather than recognize and take advantage of diversity. In Latin America and the Caribbean as elsewhere, the need for quality education throughout life is increasing, but the basic learning opportunities have not kept up with the times.

Rapid societal change and upheaval also contribute to uncertainty about the education system. We question not only whether the education system is achieving what it is intended to achieve but also its very purpose. In the words of Dumont, Istance and Benavides, students today "get ready for jobs that do not exist yet; use technologies that have yet to be invented...and solve problems that have yet to be acknowledged as such" (2010: 8). The context calls for the development of lifelong student-centred learning that takes place both inside and outside the school through other actors such as volunteers, professionals, experts and even peers, leading to a broader profile of an educator (OECD, 2013). According to Aguerrondo (2008a), the school is no longer the only place for learning, and attention should be given to the possibilities of learning in other contexts.

The very concept of lifelong learning means that learning takes place beyond the confines of formal education and educational institutions; it is not based on age, space or school time. In a dynamic and constantly changing society, continuous education is essential. Lifelong learning must be at the centre of alternative micro, institutional and macro- level reforms of the complete education system (OCDE, 2013).



## 4. The Latin America and Caribbean Context



## 4. The Latin America and Caribbean Context

LAC has made advances in schooling; however, there has been little in the way of profound change, with the tendency towards slow and marginal improvement that is reaching its limit. Hence, there is a need to design a new education model which takes into account the characteristics of the region.

First of all, in LAC, economic resources are limited and budgetary constraints make it impossible to finance high quality education for the entire population based on the western model. The region needs a new inclusive model that offers valid knowledge for all and is within the reach of each country's economic resources.

Second, the cultural foundation of the LAC population is heterogeneous, so although teacher training is essential, it cannot be done in a general way that presupposes a homogenous culture. Instead, teacher training in LAC must consider the unique cultural diversity of the region.

Third, the State itself and its ministries need to be reformed to acknowledge heterogeneity. This may bring up organizational models "foreign" to the region, such as decentralization.

Finally, the lack of alternative thinking in the region indicates a scarcity of political resources necessary to mobilize a change as important as the one that the region currently needs in education. To lead this prospective thinking, an intellectual movement that is capable of generating relevant reflections for the region and questioning the status quo is required.

There is no doubt that LAC has made significant progress in recent decades in schooling. UNICEF reports that "political and financial efforts... social demands and the advocacy and orientation of international entities" have expanded the region's education systems so that the majority of children aged 5-15 attend school. Still, according to UNICEF, there are pockets of exclusion, including students who enter the education system late, those who

repeatedly fail, those who do not find experiences that allow them to develop their capacities, and those who live in situations of discrimination. As if this is not enough, "[i]n many cases, children and adolescents... [bear the brunt of] dramatically impoverished, precarious and humiliating conditions of life" (UNICEF, 2012; 17).

The reflection on the future of education in LAC is focused on a regional analysis of the current situation, the challenges facing the education system and the resources that are required to accomplish the basic goals in education. In addition, alternative funding sources and methods of achieving better results with present resources will be analysed (OREALC, 2004: 5).

While this diagnostic has been known for decades, the region has failed to undertake deep transformations, given its tendency towards marginal improvement, situation that is reaching a limit. Nevertheless, the changes taking place on a global level today provide a historic opportunity to reflect deeply about educational change in LAC.

Therefore the prospective thinking must inquire about what are the possible lifelong learning opportunities – within the knowledge society – that are relevant for the specific context of LAC and that can act as determinants of change?

When facing challenges, Latin America and the Caribbean have been known to import solutions developed in another region entirely, without necessarily determining their usefulness or applicability in the context of LAC.

Besides a lack of theoretical resources, such as a new meaning for education,<sup>16</sup> LAC suffers from a deficit in two areas that causes serious problems of governance: economic resources and administrative resources. The current approach to education reform triggers tension in the system because solutions to the basic problems of efficiency and quality are rarely inspired by the reality and characteristics of the region.

Firstly, LAC budgetary ceilings on economies make it virtually impossible to finance a high-quality education for the entire population based on the western traditional model of educational organization. The way that education is offered today – the western model – is extremely expensive.

LAC is unable to achieve the levels of investment per student that many developed countries count on, but research shows that increased expenditure does not necessarily guarantee better education outcomes. The region would be better served by developing new educational technology and didactics to create inclusive education within reach of each country's economic resources. The system needs to be re-engineered to achieve better quality education for all at a lower cost (Aguerrondo, 1997). Valid knowledge and new methodologies can be achieved by changing the organization of the education system without losing quality.

Secondly, the cultural foundation of the LAC population is heterogeneous; therefore, a "one size fits all" professionalization of teachers and directors is ill advised. While quality education is founded on quality teaching, a teacher and director-training programme must take into account the diversity of the region.

An investigation of the working conditions of teachers in LAC has not yet been completed, but some preliminary conclusions can be drawn (OERALC/UNESCO, 2011).

The widespread increase in education brought not only higher enrolment of middle and lower socio-economic level students to school, but also to teaching, particularly at the primary level.

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<sup>16</sup> Michael Fullan (1993) refers extensively to this topic, identifying the need for a new moral purpose for education in order to spur change.

## a drop in the number of individuals choosing teaching as a profession is observed, due to a lack of career prestige in being an educator.

This changed teaching as a profession with the consequent impacts on the students. The concept of educability is that “every child born is potentially teachable, but the social context operates ...as an obstacle that prevents the development of this potential” (López and Tedesco, 2002: 9). This applies to teachers as well; just as all students have the potential to learn, all teachers have the potential to teach, but the context determines this potential.

Many training proposals and programmes assume that future teachers will face certain conditions of the educational system that actually no longer exist because of the widespread growth in student numbers (Aguerrondo, 2010). Unfortunately, while the student numbers grow, a drop in the number of individuals choosing teaching as a profession is observed, due to a lack of career prestige in being an educator.

Aguerrondo asserts that “the demands to obtain a professional title [in education] have decreased and... in countries where there is an admission test to enter the University, a career in Education... [requires] a low score and turns out to be the second, or even the third career choice for the students” (2010: s.p.)

In LAC, these structural conditions hinder the best individuals from entering the teaching profession, alongside the low salary and the perception that teaching is a dead-end career choice with little social recognition.<sup>17</sup> Although pay is important when deciding whether to enter and remain in the

teaching profession, teachers and professors also place value on other issues such as recognition and performance-based incentives (Vaillant and Rossel, 2010).

A panoramic analysis of the situation in Latin America demonstrates different stages in professional development, career and teacher assessment. While it is possible to assume that an improvement in teacher working conditions in some countries is feasible if a policy decision is made, the situation in others is more complex and requires more attention. Under what conditions could one move from a tendency toward de-professionalization in educators to full professionalization? The answer lies not only in good initial and continuous teacher training policies. Even the most successful policies will not have an impact without proper articulation with other essential teaching profession components: social evaluation, working conditions and performance-based assessment of teachers and professors (Vaillant, 2014). Finally, the unique type of state that prevails in LAC needs to be acknowledged and reformed.

In third place, without reform of the state, it is unlikely that educational reform can succeed. The

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<sup>17</sup> Educability is a “social construction” based on early cognitive development...including “adequate affective stimulation, good nutrition and health and primary socialization through which children acquire the rudiments of a basic framework that allows them to integrate in a specialized situation different from the family, such as the school” (López and Tedesco, 2002: 9).

<sup>18</sup> Vaillant noticed that in Argentina, Colombia, El Salvador, Honduras, Nicaragua, Dominican Republic and Uruguay, “the preparation and years of education of teachers are weaker than their peers in developed countries, and even in other developing countries. The average education of Latin American teachers and professors (12 years) is still significantly lower than those groups registered in the United States, Japan and the OECD countries (16 years) and in other developing countries.... Recent evidence also suggests that teachers come from sectors and families with lower cultural and economic capital in relative terms...and that in these households the incidence of economic vulnerability tends to be significant... [compared to other] professionals.”



reform needs to recognize the benefits of both macro and micro level management and the feedback loop between them that can be achieved.<sup>19</sup> An obvious change in the state structure that must be considered is decentralization, even though it is foreign to the traditional LAC system of governance. Quite simply, decentralization acknowledges responsibilities in the lower levels of the state bureaucracy and would have an immense impact on the structure of education (Aguerrondo and Xifra, 2012). Decentralization would require that the homogeneous structure of various state ministries be reviewed and questioned, and that a more suitable organizational model be adopted that more accurately reflects management needs in today's world.

Decentralization can help prevent the implementation of models like the Efficient School model, where "...after two decades of implementation ...it has been proven that the school's autonomy, without the guidance of education authorities, results in institutional abandonment... [making] the role of the State... more important than ever" (Alemán and Hiruma, 2009: 44). One question is which state in LAC could lead the process of sustainable education reform adequately, and another is whether decentralization would be the answer, as Gairín (2005) poses in his book, *Educational Decentralization: A Solution or a Problem?*

Finally, there is a dearth of alternative thinking in the region to drive forward the necessary changes needed in the field of education.<sup>20</sup> To lead in this challenge, an intellectual sector that is capable of generating relevant reflections for the region and questioning the status quo of academic discussions is required.

LAC has been a cradle of intellectuals who have made contributions in the development of global social thinking. These include Cardoso and Faletto,<sup>21</sup> Paulo Freire,<sup>22</sup> Emilia Ferreiro,<sup>23</sup> Oscar Varsavsky,<sup>24</sup> Fernando Fajnzylver,<sup>25</sup> and Roberto Mangabeira Unger,<sup>26</sup> all who have generated suitable answers in their fields for the reality of Latin America.

However, in the field of education, there is a lack of reflection-oriented working centres or teams to develop alternative thinking and alternative proposals that apply to the reality of LAC. The discourse on change often refers to the findings and reflections of countries that have developed strong strategies outside the region, but there is no broad discussion or deep understanding of a process like the one in Cuba, where learning outcomes are among the highest and most equitable in the region.

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<sup>19</sup> Fullan (2009) calls the process "tri-level management" because it includes not only micro and macro but also intermediary management.

<sup>20</sup> "The absence of equity and the slowness in the rhythm of educational change may lead to the risk of increasing economic competitiveness, as well as the democratic governance of the societies" (Tedesco, 2000:88).

<sup>21</sup> Cardoso and Faletto (1935-2003) are authors of dependency theory, the theoretical response to the situation of socio-economic stagnation in Latin America in the 20th century as a consequence of development theory.

<sup>22</sup> Paulo Freire (1921 -1997) revalued the principle of dialogue in teaching, opening a new path for the relationship between teachers and students. His ideas influenced and continue to influence democratic processes around the world through his *Pedagogy of the Oppressed*.

<sup>23</sup> Emilia Ferreiro (1936) developed a sophisticated theory on the processes of acquisition of written language. Her findings, originally based on the Spanish language, have been validated in other languages.

<sup>24</sup> Oscar Varsavsky (1920-1976) argued that Latin America needs a form of development that he called "nationalist and socialist style" instead of the neo-colonial and development style.

<sup>25</sup> Fernando Fajnzylver (1940-1991), a Chilean economist who led ECLAC, was an intellectual who analyzed problems of significant importance for Latin America such as truncated industrialization, the problems of competitiveness and different perspectives due to regional interests.

<sup>26</sup> Roberto Mangabeira Unger (1947) teaches at Harvard Law School. His legal work has successfully transformed contemporary legal theory. At the root of his thinking is the conviction that the world can be reimagined.





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## 5. A Possible Framework of Thinking

## 5. A Possible Framework of Thinking

A fundamental condition for building alternative perspectives is to look at issues through a different lens. In order to “plan” interventions with a greater chance of having the desired impact, acknowledge and understand the emerging processes that signal deep change is required. When adopting emerging solutions, it is necessary to envision how sustainability is ensured in the transition from a local to a general level.

There are two main environments from which emerging solutions leading to a new paradigm can be identified: the pedagogical node and the principal rules of organization. The pedagogical node comprises four elements: the content (what), the learning process (how), the teaching (in what way) and the resources (with what). For each one of these elements, the classic protocols of functioning and the mechanisms aligned with the emerging new paradigm can be recognized.

Additionally, there is the issue of mass application, or how the sustainability of an emerging solution changes when it operates at a local level in contrast to a general level. In terms of content, the challenge is to transition from a linear mental model to a model of complex thinking (21st century competences). Regarding learning, the challenge is to transition from superficial learning to understanding; teaching must overcome the transmission of knowledge with the application of combined pedagogies and experiences to achieve learning. Finally, resources can no longer be considered exclusive for teachers, but must be understood as learning tools for students. Among these resources, special importance should be given to Information and Communications Technologies (ICT) because of its potential to function as a lever of profound change. Of course, these re-definitions in the pedagogical node should take into consideration the changes in how to envision and define the two main actors of this process: the “learners” and the “teachers.”

The pedagogical node, in practice, usually occurs in environments (the classroom, the school) where “rules” are consistent with traditional definitions for each of its elements which correspond to the traditional organizational model. The disruption of these rules offers interesting opportunities to remove the obstacles that hinder the provision of learning opportunities for everyone throughout life.

The first rule denotes the mandate of uniformity. A school system organized for homogenization should be transformed into a service that may address cultural, population and individual differences. The second rule refers to the administrative model. A rigid school system organized from the standpoint of “what should be” must now be transformed into a flexible framework capable of adapting to specific and changing needs. The third rule relates to the performance style of the actors. A performance style centred on the individual must be transformed into a collaborative working environment that forms networks with different levels of complexity. Finally, the fourth rule refers to the physical presence of the learner and the teacher, an organizational device designed for a historical moment during which the only possibility of establishing relationships was physical presence. This must now be transformed into a space that relativizes physical presence by adopting digital technologies, reconsidering the traditional need of a physically present teacher or an adult certified to fulfil such a role.

In LAC, the most common view of education reform is that it has been a “failure.” Studies of educational reform that have taken place in other parts of the world tend to focus on the inherent difficulties related to the process of change. Sarason (2003), for instance, points out that reform efforts are often wrong-headed to begin with because they do not address foundational elements.<sup>27</sup>

Because reform efforts tend to be non-linear in their development, complexity theory is the best framework within which to analyse educational reform. According to Fullan (1993),<sup>28</sup> “this approach helps us to better understand not only the sinuous ...process of change in education, but [it] is also part of a dynamic process [of] how these same reform decisions and reflections stimulate or hinder the process” (Snyder, 2013:10).<sup>29</sup>

Education reforms are complex phenomenon. As Tsoukas explains, “complex social systems require forms of complex knowledge, mainly, forms of understanding that are sensitive to context, to time, to change, to events, to beliefs and wishes, to power, to the loops of feedback and to circularity” (Tsoukas, 2005:4).

Tsoukas and Papoulios (2005) clarify that the more important a social reform is, the more complex and controversial it becomes and the more difficult

“this approach helps us to better understand not only the sinuous... process of change in education, but [it] is also part of a dynamic process [of] how these same reform decisions and reflections stimulate or hinder the process”

it then is to perform a systematic analysis. These characteristics cause education reform to easily become a turbulent and difficult process to manage. The authors also claim that having an explanatory model of the functions of a reform is a pre-condition for facing the inevitable difficulties that will occur. Understanding the characteristics of emerging processes can help to plan effective interventions with concrete effects.

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<sup>27</sup> Sarason reflects on the obstacles that reform efforts face in *The Predictable Failure of Educational Reform* (1990), claiming that both those inside and outside of the school culture fail to see school as a complex of interrelated parts. The author argues that planning change should be based on a new holistic perspective. Instead of beginning with the most important and pressing problems, attention should be focused on the structural pillars of the educational system which will in turn lead to changes in every other part of the system.

<sup>28</sup> In the preface of his book *Change Forces: The Sequel* (1999), Fullan uses a combination of new theories, in particular Chaos Theory, applied to educational reform.

<sup>29</sup> To shift from the linear thinking that prevails in academia to complex thinking is not a simple task. The Western mental model is built on a linear understanding of the world, a consequence of a classical Newtonian thinking matrix. This understanding prioritizes stability and structures; change is understood as an abnormal event. In the conceptualization of a process of change, it is common to define “stages,” that is, to separate moments in which different “stable institutional arrangements” can be perceived; in reality, however, the process of change does not consist of stages, but rather of what lies between stages. Linear thinking focuses on the structure and not on an understanding of the process; the linear mind-set values stability more than change (Tsoukas and Chia, 2005).

## 5.1 Acknowledging Emerging Processes

The profound change needed today in the region cannot be planned within the traditional framework, but it can be acknowledged and encouraged (Snyder, 2014). In complex contexts, the possibility of intervention depends on the capacity to comprehend and acknowledge emergent<sup>30</sup> non-linear processes which lead towards change. Before looking at emerging processes, we must understand how complex systems work.

Complex systems involve individual elements which are interconnected and interact permanently with each other and with the environment. Complex systems are in constant motion; they are dynamic and their own rules emerge from self-organization of the system. Interactions between individual elements create results according to the circumstances and characteristics of the system; results cannot be imposed. This spontaneous process is known as an emerging or emergent process.

Complex systems do, however, contain elements of regularity. The elements that form the system are organized within a network and have different degrees or levels of proximity. The main elements of a complex system are called “nodes.” Complex systems can bring forth entirely new ideas, but the process is not controlled. In fact, “taking advantage of complexity consists not in [re] directing the systems that are far off balance to equilibrium, but on the contrary, in understanding that in

situations that are far from balance or at the edge of chaos, new structures and dimensions emerge” (Maldonado, 2013: 197).

The dynamics of self-organized processes generate bifurcations, which explains why trends from the past are not necessarily reproduced in the future. Within a bifurcation, new emergent processes are opened if the conditions are present. This means that in order to guide, plan and implement processes of change, one must both acknowledge emergent processes and allow the conditions for them to emerge. Conditions of sustainability must also be present so that the changes can be germinated and established. This is precisely the space where interventions are possible.

In order to encourage processes for education change according to the context, one of the main tasks is to acknowledge possible emergent processes and new perspectives, not from the traditions of the past but from the challenges of the present and the future. There are two main areas in which to identify emergent processes: first in the pedagogical node, which includes redefinitions of the education process (OECD, 2013), and second in the organizational rules that structure implementation.

Acknowledging, understanding and using emergent processes is perhaps the most important tool in achieving meaningful change in the field of education.

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<sup>30</sup> Sotolongo defines emergence as the “ability of self-organization of the world ... through [which] ...the world spontaneously articulates its most general source ...and becomes ‘complex.’ ...[solving] the possible conflicts between such sources ...these processes ...we call ‘emergent’ – in other words, spontaneously emerged from ‘local-in-network’ interactions until it forms ‘global’ standards, which often surprise us by being counterintuitive, because of the non-linearity of these ‘local-in-network’ interactions ...that is to say that small local changes on occasion result in large overall consequences” (Sotolongo and Najmanovich, 2013: 8-9).



## 5.2 Emergent Processes in the Pedagogical Node

The pedagogical node defines the elements that allow significant learning or deep understanding in students. In order to generate this type of learning, experiences that favour it must be structured. This requires a pedagogical approach which, instead of “producing” education, “facilitates learning” in different contexts and populations.

The four elements that make up the pedagogical node help to define the intervention: the content (what), the learning process (how), the facilitation of learning (in what way), and the resources (with what).<sup>31</sup> Two additional elements are the two main actors of the process: the learner and the teacher.

- In terms of the **content**, or what is to be taught and learned (the curriculum), the challenge is to move from a linear way of thinking<sup>32</sup> towards complex thinking. In proposals for educational change, complex thinking is linked to 21st century skills, which include “the ability to apply significant learning in a flexible, well integrated way to different situations and to face social and communication needs as well as the emotional demands of rapidly changing contexts. It involves creativity, collaboration and an entrepreneurial approach, and digital literacy occupies a prominent place” (OECD, 2013: 45). Flexibility in the application of knowledge means that these competencies are adaptive. This is the opposite of the routine application of knowledge, which is what most typical school assignments

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require (Ibid: 46). For example, although there is a call for “new science” in the school curriculum (Sotolongo and Delgado, 2006), there is still no deep discussion of changes in the epistemological foundation, which should underpin all education reform. Most discussions about curricula are narrow in view and are focused on “updating” discipline content or juxtaposing new areas of study. Curriculum redesign has sought to address the 21st century skills by incorporating “cross-cutting content”<sup>33</sup> or interdisciplinary content, and yet, these efforts reflect the need for school curricula revision from a more complex thinking perspective.

- Regarding the **process of learning or how learning takes place**, the challenge is to move from repetition and imitation towards

<sup>31</sup> Some researchers call for educational innovation to modify the pedagogical node; this is different from what is suggested here (OECD, 2013).

<sup>32</sup> Linear thinking is common in empirical science, which looks for causal determinism and is inspired by Newtonian physics. Linear thinking stands in contrast to “complex thinking,” which works with casual probability (Sotolongo and Delgado, 2006). Complex thinking is inspired by Prigogine’s concept of the “end of certainty.”

<sup>33</sup> The incorporation of cross-cutting content shows that the new knowledge does not “fit” into the traditional school disciplines; the new concept of knowledge means it must be organized around problems or inter-disciplinary fields. This inconsistency has not yet generated open epistemological reflection among curriculum specialists.

comprehension. The definition of learning has undergone substantial changes over the course of the history of formal education. Erik de Corte (2010) describes a progression in which initial behaviourism gave way to cognitive psychology, which considers learning the processing of information and not a response to stimuli. Today, a more active concept of learning is captured by the concept of “social constructivism.” In the constructivist sense of learning, there is an interaction between the students and their context, but what happens in the individual minds of the learners is not limited. Learning aimed to promote flexible 21st century skills is defined by the acronym CSPC: Constructive (learners actively construct their learning and skills); Self-regulating (each individual actively uses personal strategies to learn); Positioned (learning is understood in its context, not abstracted from it); and Collaborative (it is not a solo activity but in relation with others).<sup>34</sup>

- In the **facilitation of learning** or in what way learning happens, the challenge is to modify the concept of teaching, moving from a traditional view of teaching as the transmission of knowledge through a “method” to an alternative model which sees teaching as a combination of experiences for learning, a sort of “didactic for comprehension.” Teaching methodologies have changed throughout the 20th century, mainly visible in the reduced importance given to the knowledge of data and the increased relevance given to the capacity and processes of learning. According to David Perkins (1992), there are three

basic understandings behind successful teaching methodologies.<sup>35</sup> First, students learn through receptivity; second, students learn by imitation (the development of complex competencies);<sup>36</sup> and third, learners, as thinkers, construct mental models in their interaction with others through dialogue. Learners seek to develop the interpretative and comprehensive capacity to interact with valid public knowledge and to understand how disciplined knowledge proceeds, what needs it responds to, and how it is produced (Feldman, 2010). The most important thing is to widen the spectrum of options for learning. The OECD Innovative Learning Environment (ILE) project recommends a combination of methods and that “the focus [be] on those pedagogies that depend on collaborative work and research... [which] explicitly prepare students for future learning ...especially in the content that intends to develop the so-called ‘21st century skills.’” In fact, the ILE innovations are not based on a singular approach, but “are supported by a combination of approaches” (OECD, 2013:88-89). The authors urge educators to “play complex roles and... [be] expert orchestrators of learning frameworks within complex and contemporary learning environments” (Ibid: 64).

Apart from teaching, the concept of learning spaces has expanded from the school and the family to the entire community where people participate in both virtual and non-virtual spaces. School is no longer the only channel through which new generations come into contact with knowledge and information (Brunner, 2000). In a

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<sup>34</sup> From CSSC Learning: Constructive, Self-regulated, Situated, Collaborative (de Corte, 2010).

<sup>35</sup> In *The Intelligent School*, (1992), Perkins calls this criteria or group of principles that every teaching method should satisfy “Theory One.”

<sup>36</sup> Feldman explains that learning by imitation is when students develop action by imitating an approach that is offered to them. Successive corrections are made, and “‘know how’ is prioritized.” Both simple and some high-level skills can be learned by “confronting one’s own action with someone who does it expertly.” According to Feldman, explanation is of little use in some cases, and “it is only possible to learn how to do it by doing so.” He goes on to explain that “execution improves by imitating a good model...and that [work] done by imitation does not mean that it’s inert ... , [but it is] learning related to ‘know how’” (2010:22).

society where “learning happens throughout life,” everyone can and should both learn and teach; these are also part of the basic 21st century skills (Aguerrondo, 2010).

- Concerning **the educational resources**, or “with what,” these are traditionally considered tools for the teacher; however, in the new reality, resources must be integrated into the experiences of the students in order to facilitate the learning process. Learning resources are procedures and strategies that students should put to work when they face a learning assignment; they can be both material resources or cognitive processes that allow them to carry out significant learning. There are multiple options in this domain, from the most traditional, such as books and the abacus to the latest and most innovative. The principal emergent resource is the use of ICT. ICT has the capacity to activate profound changes, since the pedagogies and learning experiences that use digital resources require the use of numerous non-traditional learning skills and capacities (Groff, 2013).<sup>37</sup>

The incorporation of ICT in education deserves special attention. Technology was initially considered only a learning resource, but today it is very clear that it can be much more, even becoming leverage for change. It can play a key role in mobilizing all the elements of the learning environment, even in traditional education systems. With the implementation of mass media and the internet, a serious competitor has emerged against schools, teachers and

professors (Marcelo and Vaillant, 2009). There is now a massive amount of information available to students in a parallel setting and format that differs from the stiff learning offered in a traditional school setting. ICT exerts a strong influence on the generation of models, social patterns and values, which necessarily force to rethink the processes of learning and teaching (Vaillant, 2013). As Grof (2013) explains, “the depth and range of available technologies nowadays offer learning environment diversity as well as the opportunity to take advantage of ICT as a guiding thread for education change.”

Finally, changes in the ways of perceiving and defining the two main actors of the educative process must be taken into account: the “learners” and the “educators.” OECD research (2009a, 2009b) points out the characteristics of digital natives and the advances in the learning psychology of “new millennium learners.” It is not only about new habits or the use of ICT, but about how a relationship with ICT modifies the processes of learning and knowledge generation.<sup>38</sup> New evidence about how children and adolescents learn today should lead to a deep questioning of traditional didactic solutions and allow the redesign of school practices.

Teachers in Latin American schools today teach a generation of digitally native students. A great number of children in LAC countries have grown up with some kind of digital networking device within reach since birth (Vaillant, 2013). This leads to the speculation that these students are markedly different from previous generations in the ways

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<sup>37</sup> For example, Web 2.0 is a tool for the co-creation of knowledge and is a powerful non-traditional resource.

<sup>38</sup> Findings include that learning icons precede learning letters; that attention is non-linear; that typical learning is through trial and error rather than imitation; that information is primarily accessed through digital display systems, not in printed form; that images, movement and music are “more important” than text; and that part of knowledge begins to be acquired through non-linear channels such as hypertext.

in which they learn, live, and work, thanks to the generalized access to digital technologies and the connection to networks.

While reflection on the role and redefinition of educators has changed with time, the importance of a teacher's very existence has not yet been seriously questioned. The OECD ILE Project calls for a broadening of the profile of educators. The authors claim that "available options for learning environments can be extended, including others in the teaching profile, with their particular experiences, knowledge and contributions." They suggest bringing together "different experts, adults or peers, to work with, or act as, educators" and that students also be "called upon to be educators of their peers, an experience of cooperative learning that brings benefits such as better understanding of the subjects, more trust and better study skills, both for those who teach as well as for those who learn this way" (OECD, 2013: 64).

Other components of society can also be acknowledged today as "teachers." This includes mass media, Internet and even certain work and leisure spaces. A re-conceptualization of the "teacher" should not ignore teaching that takes place in these learning environments.

### 5.3 Emergent Processes within the Rules that Regulate the Organization

In practice, pedagogy is nested in organizational environments such as classrooms and schools, where rules of functioning have been designed according to a traditional definition of each of its elements. This is reflected in a traditional

organizational model. Some authors argue that despite reforms in the field of education and the innovative efforts by different actors, these basic rules have not changed in the mainstream education system, and this has hindered the possibility that reforms can lead to profound transformations.

A general look at some of the typical forms of traditional school organization allows the identification of four basic characteristics or pillars that appear at all organizational levels and that regulate the relationship among its members: homogeneity, rigidity, individual performance and physical presence.<sup>39</sup> In many cases, these organizational characteristics act as obstacles to adequate lifelong learning opportunities for all people.

#### • Homogeneity vs. Diversity

The first organizational characteristic in need of revision is the insistence on uniformity in the traditional system. At the time of their emergence, school systems played a crucial role in the constitution of national states, especially in the region of Latin America. Schools played both a cultural and a political role, being the carrier of common cultural values and at the same time allowing the political development of hegemonic models established by dominant classes (Weinberg, 1984). Nowadays, the challenge is quite different. While the education systems are based on a homogeneous education model, today's globalized society is characterized by a growing diversity.

To achieve the integration of all social sectors into society and access to valid knowledge for

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<sup>39</sup> While these pillars or rules of organization are not the only or necessarily the most important ones, they have been selected for their relevance in the context of this report.



all, diversity must be viewed as a positive aspect. This is a challenge for our education systems; diversity is often considered an obstacle rather than as a strength. Traditionally, school systems favour homogeneous working schemes, with calendars, uniform rates of progress and students well selected according to criteria that easily group them by similarities such as social status or skills, for example.

While homogeneity facilitates bureaucratic administration, it differs from the real dynamics of the current world. This homogeneous bias reproduces social inequity and denies the possibility that diversity contributes to learning. Studies demonstrate that in heterogeneous classes, all students learn more and better. Considering schools as places for the management of the richness of diversity involves, not only accepting diversity but also using it to support learning in students. Unfortunately, most schools in LAC still do not know how to accomplish this purpose.

#### • **Regulatory Rigidity vs. Flexibility**

The second characteristic refers to the traditional administration model of vertical hierarchy and regulatory rigidity. The challenge is to move away from these rigid bureaucratic structures to a more flexible administrative model. The traditional role of education administration was to ensure the existence and functioning of schools; now is compelling to move towards the management of the educational policy, making possible the learning of the entire population throughout life. Complex public policies are needed to ensure that schools can offer relevant solutions to meet the needs of the different sectors they serve.

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The state institutions (macro and micro) have been designed to administrate homogeneity and “establish a system” of uniformity and procedures that do not take into account the specific spaces where the service is offered or the differences among those who receive it. With few exceptions, fixed teaching cycles do not consider the environment, the work or the domestic situations of students. The school day, schedule and fixed work patterns are part of an inflexible apparatus incapable of adapting to local needs. Today, flexible educational structures that bear in mind the heterogeneity of the population that education must reach are needed. Inclusion cannot be achieved until the system adapts to the needs of the different age groups, various sectors and the continuously evolving and changing labour market. The school system, the educational institution and the classroom dynamics all need to be re-organized to meet specific and constantly changing needs (Aguerrondo, 2014).

### • Individual Performance vs. Collective Performance

A third characteristic of conventional education systems pertains to performance. Traditionally, performance has been based on individual and isolated effort, corresponding to a time when the educational power of interaction was less recognized.<sup>40</sup> The movement today, however, should be towards more collective performance. The traditional model prioritizes interaction with the teacher but not with classmates; each student works alone even though they share the physical space of the classroom with others. Furthermore, the teacher/professor may isolate him or herself by closing the door of the classroom. Similarly, principals and supervisors may carry out their tasks without interacting with other colleagues. There are countless demonstrations of the advantages of teamwork, cooperative learning and teaching, circles of learning, and many other types of collaborative work. All of them contribute to individual growth and to the establishment of new methods of institutional management, creating an environment of collaborative work that leads to complex networks.

### • Absolute Presence vs. Relative Presence

Finally, traditional school organization assumes the physical presence of both teacher and learner. This reinforces two characteristics of the traditional model: the emphasis placed on teaching rather than on learning and the reduced possibility of distance learning. Today, the physical presence of the teacher must change; indeed, the teacher may not even be a physical person. There must be

There are countless demonstrations of the advantages of teamwork, cooperative learning and teaching, circles of learning, and many other types of collaborative work.

a transformation of the organizational space that includes digital technology and that questions the need for a “teacher” to be physically present or the need for traditionally certified teachers at all.<sup>41</sup>

The working hypothesis of this document is that the field of education will go beyond the reforms that appear out of policy changes and move, through mutation, away from the traditional model of organization and teaching towards another standard that responds to the demands of the 21st century. The hypothesis is that there are real life solutions that may be recognized as emergent processes leading to a new paradigm that will achieve the goals of the past decades and also respond to future demands.

These emerging processes are summarized in the following table:

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<sup>40</sup> Piaget’s cognitive development theory establishes that people learn more effectively by doing and exploring actively, processes in which social interaction, working with others and the multiplicity of stimuli play an important role.

<sup>41</sup> The transformation would include “blended learning” strategies, collaborative work between peers with or without adult teachers present, and self-directed learning through traditional materials or new technologies (virtual learning environments, educational games, internet, mobile phones, etc.).

**Table 2: Analyzers to Recognize Emergent Processes**

Analizers	Traditional education system	Emerging system
<b>THE PEDAGOGICAL NODE</b>		
Content (Epistemological definition)	Positive science (Linear thinking)	Systemic theory (Complex thinking)
Learning (Results of the process)	Poor thinking (Imitation, repetition)	Significant thinking (Comprehension)
Teaching (Development of process)	Singular model of transmission (the "method")	Combination of experiences for learning
Resources (Material elements)	Operational tools to support teachers	Tools for complex learning of students
<b>RULES GOVERNING THE ORGANISATION</b>		
Strategy of reach	Homogeneity	Differentiation/Diversity
Type of organization	Rigidly hierarchical	Flexible structure
Performance	Individual performance oriented	Collective performance
Physical presence	Absolute: Required physical presence of the teacher/learner	Relative: Physical presence of teacher/ learner not required

#### 5.4 Emergent Processes must be Widespread

While there are many examples of pedagogical change, the vast majority are isolated in one school or a group of schools. Some of these cases demonstrate that change is possible and, furthermore, that there are concrete ways to unfold these processes. However, they have had little impact on the mainstream system. For an alternative experience to become an emergent process, it must fulfil the requirements of both the pedagogical node and the rules of the organization and must be widespread.

It is normal for emergent processes to initially manifest themselves in local instances, that is, within a small group of individuals or institutions. But the mutation process will only be achieved if these local instances are transformed into global guidelines. When an emergent process has transcended from local to global, it means that it has gained space and has modified the system or part of it. This process is not automatic; systems tend to self-preserve, making changes difficult. This is especially true in education systems, which have developed mechanisms of isolation and innovation absorption that enable them to continue changing at a superficial level without changing the most profound aspects (Aguerrondo, 2008a).





## 6. Emerging Solutions: Ground-breaking Experiences

## 6. Emerging Solutions: Ground-breaking Experiences

Breaks with the traditional education paradigm help to imagine a future education system with different characteristics. These breaks are not typically found in mainstream education settings, but they can become possible answers for populations that do not achieve good outcomes within the conventional education system. Reinventing education is a long and complicated task that requires cooperative efforts far beyond political discussion or academic exchange; it requires putting diverse resources together to imagine entirely new ways of conceiving education from the ground up.

Now is the time to recognize the changes in LAC region that can lead to the emergence of a new education model. The process is analogous to what Kuhn have defined in the field of science in terms of paradigm shifts.

According to Kuhn (1972), a revolution in the field of science occurs with the abandonment of one paradigm and the adoption of a new one, not by an isolated scientist, but by a scientific community as a whole. In order for such a revolution to succeed, the entire professional community must lean drastically towards the new paradigm, leaving only a small group of dissidents behind.

What determines the presence of a new paradigm? For Kuhn, the trigger is exactly those problems that cannot be addressed or explained by the old paradigm. In the case of this report, instead of explanations, answers and solutions are sought.

The question is, then, to achieve better learning opportunities for all children and adolescents in LAC, what problem is *impossible* to solve with today's

old paradigm that *would be possible* to solve from another paradigm?<sup>42</sup> According to Kuhn, the first murmurs of solutions leading to a new paradigm arise in the margins, not in the centre, and this is certainly true of education in the LAC region, where the old paradigm has almost achieved the status of immutable truth. For this reason, it is required to look for answers and solutions in the margins of the education system – that have shown potential – to achieve significant learning that has so far not been achievable under the old paradigm. If these “marginal” solutions are discovered, it will mean taking a step towards a new paradigm.

**Service Learning operates in various countries across the region. It is a methodology promoting the development of competencies through school activities of community service.**

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<sup>42</sup> Unlike other societies, which are gradually integrating breaks with the traditional education system and seeing profound changes as a result, the “old paradigm” is perhaps more deeply entrenched in LAC. See, for example, the “flipped class proposal” or Finland’s decision to replace the entire curriculum of traditional disciplines with a curriculum based on topics and/or problems.

## 6.1 Emerging Solutions

Research identifies four inspiring cases that can serve as good alternatives in the pursuit for better learning opportunities for all children and adolescents in LAC. These are Learning Communities based on Tutoring Relationships in Mexico; the New School in Colombia; Service Learning Projects in various countries in the region; and the use of Massive Open Online Courses (MOOC) in Uruguay.

**Learning Communities** based on Tutoring Relationships in Mexico facilitate the creation of learning communities in schools through personal relationships of cooperative teaching. Its effectiveness has been proven in “Tele-secondary” schools in rural areas.

**The New School** in Colombia operates using a pedagogical model designed in the mid-1970s to offer complete primary school education as well as improve the quality and effectiveness of schools in rural areas, especially multi-grade schools. It consists of four integrated components that operate in a systematic manner: the curriculum and classroom; the community; training and monitoring; and management.

**Service Learning** operates in various countries across the region. It is a methodology promoting the development of competencies through school activities of community service. It is “learning by doing” and helps consolidate the learning of curricular contents by integrating and applying knowledge coming from diverse disciplinary fields.

Finally, in Uruguay, **MOOC** is revolutionizing the

concept of e-learning. Unlike traditional formats, people who subscribe to these courses are linked through common interests and can exchange opinions, queries, and revisions, while the teacher in charge officiates as a facilitator, moderator and regulator. In October 2013, the first MOOC computer programming course was launched in Latin America, the first in the world specifically addressed to adolescents between ages 12 and 17.

These four cases can be considered breaks with or ruptures in the traditional model of teaching. In each case, the competencies developed in students are given more weight than the content being taught. The motivation behind these innovations includes the desire to change the culture of memorization and the reproduction of information. Here, information is not only sought but is also processed, transferred and used strategically for problem solving in specific situations.

In all cases, the emerging solutions meet the following conditions:

- a. The innovations are widespread; that is to say, they cover a large number of schools and individuals;
- b. There has been a modification of the central elements of the pedagogical node (content, learning process, facilitating learning or teaching, and the resources);
- c. The innovations move away from the traditional pillars of education systems: they embrace diversity, carry out cooperative work, are organizationally flexible and do not insist on face-to-face interaction;
- d. According to rigorous evaluation,<sup>43</sup> the innovations have obtained good results at lower cost.

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<sup>43</sup> The cost-benefit relationship is important because the lack of financial resources in LAC contrasts with the available funding in countries where the best results are achieved.

There is no guarantee that these four innovative programmes will be sustainable over the long term, in part due to pressures to maintain the status quo. Nevertheless, these case studies are instances of change that have managed to overcome the resistance of the system.

### 6.1.1 Learning Communities based on Tutoring Relationships in Mexico<sup>44</sup>

The methodology facilitates the creation of learning communities through personal relationships of cooperative teaching. This innovation, which was created by a non-governmental organisation, is included in the Programme for the Improvement of Educational Attainment (PEMLE) of the Federal Public Education Secretary and is an extension of previous initiatives that date back to 1996.<sup>45</sup> The work has mainly been focused on tele-secondary schools, rural schools that are very small and scattered throughout isolated areas in Mexico.

Since 2009, 6,092 schools have developed tutoring networks to improve education outcomes. These schools did not focus on studying for tests but rather on developing autonomous learning skills in both teachers and students by using the topics of the ENLACE test in which they demonstrated lower scores.<sup>46</sup> Results from 2011 show that schools that implemented the tutoring network in a systematic manner improved radically. In primary schools with tutoring networks, the number of students in the categories of good and excellent in the subject of Spanish improved substantially. In schools where tutoring networks were already working, the

percentage of students in the categories of good and excellent increased by 16.4 per cent between 2009 and 2011; in schools with tutoring networks in-progress, the increase was 9.2 per cent. A total of 3,392 adolescents at risk of dropping out graduated from primary education with the aid of tutoring relationships, which resulted in an 85 per cent enrolment in secondary education.

After visiting Mexico, Richard Elmore (2010) explained the Learning Community practices:... the students select a learning project from a series of curricular materials and begin individually with an investigation; adult tutors (who may or may not be trained professors), trained in a network of other tutors and coordinators of the networks work with students in the areas in which they have expertise; the students prepare a formal response to the study project they have chosen and, once they have mastered the topic, they prepare a formal exhibition and present it to their colleagues, tutors and parents. When they develop competence in the chosen area, the students play the role of tutors to other students [who] are exploring the same area. The students learn both the content they study, as well as the practice of tutoring... the learning students and tutors, along with the training that tutors receive through a wider network [creates] a common wealth of knowledge, which is available to tutors and students of other schools in the network. Learning is regulated through the rules of competence: the pedagogical contract between the teacher and student is that the teacher only

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<sup>44</sup> See Redes de Tutoría [www.redesdetutoria.org](http://www.redesdetutoria.org) (2014).

<sup>45</sup> Originally the initiative was called Post-Primary and then Independent Learning Methodology (MAPCP); now it is called Learning Communities.

<sup>46</sup> The test evaluated academic achievement until 2013-2014. In 2014-2015, PLANEA, a new assessment, replaced ENLACE.



offers those texts and topics on which they have expertise, and the student selects the one [in which] he or she is most interested.<sup>47</sup>

The Learning Communities based on Tutoring Relationships proposal is expanding. In 2012, demonstration workshops of tutoring relationship for teachers and students were carried out in 28 thousand secondary schools in the country; this allowed 30 thousand teachers and 2 million students to learn about the tutoring relationship. In addition, 475 schools have had regional and state academic exchanges as part of a strategy to improve the quality of tutoring they provide and to increase the number of topics that make up the catalogue.

The tutoring relationship is interesting as an emerging response because of the importance that it gives to both the development of a student's capacity to manage their own learning and in the redefinition of the role of "teacher" or tutor in real learning communities. This type of tutoring is based on research that demonstrates its efficacy as a strategy of academic progress. Furthermore, learning to teach (being the tutor) is a component of the 21st century skills framework to be developed in students.

This experience qualifies as an emergent response in the region: it has achieved good results, it is widely deployed, the costs are lower than the traditional model, and it can be implemented with the existing resources in needy schools in the region.

### 6.1.2 The New School of Colombia

Another example of an emergent response is the New School of Colombia (EN)<sup>48</sup> based on the ideas of the Active School. In this example of an emergent response, students play the role of protagonist and achieve profound learning. It is aimed especially at diverse population groups for whom the traditional school model has no specific answers and is an attempt to combat teacher-centred instruction with personalized attention.

The New School is a pedagogical model designed in the mid-1970s by Colbert, Levinger and Mogollón to offer quality primary education in Colombia. It was originally designed for rural schools, particularly multi-grade schools, where one or two teachers were in charge of all the levels of primary education at once. The New School offers complete rural primary education at a low cost. The model consists of four integrated components: the curriculum and classroom; the community; training and monitoring; and management.

Through simple strategies and tools, the New School promotes active, participatory and collaborative learning or learning by understanding. One hallmark is flexible promotion that allows students to advance from one grade or level to another by completing academic units at their own pace, which takes into account their individual characteristics based on a group of Self-Learning Guidelines. Furthermore, this model promotes civic and social values through a School Governance module.

One of the biggest obstacles in the development of the New School in Colombia was the need for

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<sup>47</sup> Notes by Richard Elmore (2010) in "Some fundamental aspects of the programme from the improvement of educational achievement in Mexico," Santiago Rincón Gallardo (2010).

<sup>48</sup> See New School Foundation (2014).

training and professional development to qualify and update teachers. To overcome this, teachers receive, throughout the duration of their job in the New School, educational support to improve their teaching and learning and to improve the competencies acquired by their students.

In the 1980s and 1990s, the New School offered the best rural primary education in Latin America after Cuba.<sup>49</sup> In 1989, the World Bank chose the New School among one of three reforms in developing countries that had a successful impact on public policy (Psacharopoulos et al., 1993). In 2000, the United Nations Human Development Report selected this model as one of three major achievements of Colombia.

In 1987, the team that developed the pedagogical model created the New School Foundation “Let’s Return to the People.” Since then, the strategies and materials have been adapted to the urban context and have been piloted in various cities in Colombia. This new model is called the Urban Active School.

In 2001, the programme Circles of Learning: Active New School was designed as a strategy to re-establish education service to displaced and excluded children and adolescents. The Itinerant New School program was also created as a concrete educational solution for communities affected by natural disasters in Colombia. Since its creation in 1987, the Foundation has promoted and led the internationalization of the model to various countries in the world, including Brazil, Ecuador, El Salvador, Guatemala, Guyana, Honduras, India, Mexico, Panama, Peru, Dominican Republic, East Timor and Vietnam.<sup>50</sup>

The New School case is particularly interesting; despite its successes, this emergent solution has not been able to install itself into mainstream traditional education.

A recent report (Vélez Bustillo, 2015: s.p.) indicates that the education agenda in Colombia does “not include the strengthening of the New School model, which was strongly supported by the Ministry of Education (MoE) for a few years.” Instead, the MoE is supporting “a ‘diluted’ version of the model, but without convincing results.”<sup>51</sup> The report goes on to explain that the original model is still being used with great success through public-private agreements, such as the Active Urban School program in Manizales, which has good results in Programme for International Student Assessment (PISA) compared to other Colombian schools. In Colombia and Guatemala (Forero et al., 2006), studies show that “when it is correctly implemented,” the New School has reduced repetition and dropout rates. New School students “achieve better academic outcomes in Mathematics and Spanish than students in third and fifth grade in schools following the standard model.” The New School also promotes “democratic values and social coexistence, and improves self-esteem and creativity.” To sum up, the New School “saves money while improving the cognitive and non-cognitive education outcomes. Therefore, UNESCO, UNICEF and the World Bank have advised their members interested in improving education to learn from this pedagogical experience.”

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<sup>49</sup> According to UNESCO Latin American Laboratory for Assessment of the Quality of Education (LLECE) (1998).

<sup>50</sup> New School Foundation (2014).

<sup>51</sup> One of the most effective methods used by the traditional education system to absorb innovation is bureaucratization. The New School experience continues to formally exist, but in practice, it operates increasingly like the traditional system. (Cf. Aguerrondo, 2008a).

Other remarkable characteristics of New School are: the special focus on disadvantaged groups; the unprecedented widespread growth that have achieved; the active, participative and collaborative learning into action approach; the respect for the learning pace of each student, and its strength to develop not only cognitive skills but also the exercise of civic values and participation.

The New School satisfies the conditions of an emergent solution in the region. It has achieved good results and is widely deployed; the costs are lower than the traditional model, and it can be implemented with the existing resources in needy schools in the region. The New School model has also demonstrated that it is sustainable. For the model to have an impact on public opinion and on policy decisions, which will protect it and allow it to grow, there must be an academic community that advocates for these features of a more just education.

**To overcome this, teachers receive, throughout the duration of their job in the New School, educational support to improve their teaching and learning and to improve the competencies acquired by their students.**

### 6.1.3 Service Learning

A third emerging response to the problems education systems are facing in LAC is the Service Learning model (APS).<sup>52</sup> Although this model did not originate in the region, it was completely adapted to LAC as shown by its major expansion in Latin American countries. Service Learning is a methodology that promotes the development of competencies through academic activities of community service.

Service Learning has been widely practiced particularly in Spain, the US, the United Kingdom, Mexico, Costa Rica, and especially in Argentina. Since Harvard began its first course of Service Learning in 1966, hundreds of universities and schools all over the world have included these types of activities in study plans. Prestigious universities such as Berkeley and Stanford have funded teacher-training institutions in Service Learning. Countries as diverse as Italy, Germany, Botswana, Australia, Costa Rica and Argentina are promoting national or regional programmes in order for students to be able to serve the community by applying knowledge acquired from formal education. In Argentina, the Latin American Centre of Learning and Solidarity Service (CLAYSS) is located, an organization working in the region to promote the values of solidarity and citizen participation through the Service Learning methodology (CLAYSS, 2014).

This pedagogical model allows learning by doing and helps consolidate the learning of curricular content by integrating and applying knowledge and activities

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<sup>52</sup> Theories about the importance of voluntary work and service learning techniques derive from the early 20th century in the US. Its theoretical foundation is supported by the work of William James, among others, who argued that the knowledge acquired in books can be fortified through experience. Antioch College was a leader in extending work experience outside the school through community service. Students from the 'work-study' program, which began in 1921, served the community in the areas of health and education. The expression "service learning" emerged later.

from diverse disciplinary fields. Service Learning projects also develop problem-solving capabilities, motivation to learn, interpersonal communication, the capacity to observe and apply knowledge, personal growth and a commitment to democratic values.

Learning happens beyond the limits of the classroom through active participation in organized activities based on the real needs of the community. It is not about a series of isolated activities; rather, Service Learning assigns structured time in the educational curriculum for students to commit to the community. Meanwhile, the students improve their critical thinking, communication and planning abilities.

According to Puig, Service Learning is “a proposal that merges in one single activity community service and learning” (Puig et al., 2006: 11). It has the following characteristics: 1) new knowledge is acquired and personal development occurs; 2) students participate actively; 3) activities are carefully organized; 4) the needs of the community are central; 5) coordination is required between formal or non-formal education entities and the community that will receive the service; 6) civic responsibility is generated; 7) the service is integrated into the academic curriculum or the formative proposals of the non-formal education entities; 8) time is allocated for reflection about the experience (Ibid: 17).

The Service Learning model presents many of the characteristics of a new or emergent education prototype, such as profound learning, active skills, cooperative work, a break from the rigid organizational standard in space and time, planned reflection, and widespread application.

A distinctive feature of this emergent response is that, despite being very powerful as an alternative model, it has not broken the traditional system but rather modified it from the inside. Service Learning was originally designed as an extracurricular programme, but the curriculum and content development were soon integrated. It is neither low cost nor specifically directed towards more disadvantaged groups, but it is possible to use Service Learning in areas or schools with limited resources or with disadvantaged populations and obtain very good results. This emergent response serves as an intermediate step to a more profound change.

#### 6.1.4 MOOC in Uruguay

A final experience that constitutes an emerging response to current education systems crisis in LAC is the design and implementation of MOOC, which is revolutionizing the concept of e-learning.<sup>53</sup> In order for e-learning to fall under the umbrella term of MOOC, it requires to meet the following criteria:

- It must be a course: with a structure oriented to learning, which often leads to a series of tests or assessments to prove the acquired knowledge;
- It must be large scale: the number of possible enrolments is, in principle unlimited, or of a much higher amount, which cannot be counted in a classroom course; the scope is global;
- It must be online: the course is managed remotely, and the Internet is the main source of communication; it does not require classroom attendance;
- It must be open: the materials are accessible

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<sup>53</sup> It is generally accepted that the first Massive Open Online Course (MOOC) was Connectivism and Connective Knowledge (CCK08) organized by Siemens and Downes of the University of Manitoba (Canada) in August 2008. Approximately 2,300 students were enrolled in this 12-week course.



for free on the Internet, but this does not mean they can be reused in other courses.

MOOC has been adopted by universities in the US, Canada, and the United Kingdom such as Stanford, MIT, Alberta, Harvard and Edinburgh. It is based on learning through very short three-five minutes videos, online exercises, recommended readings and, above all, the exchange with other subscribers all over the world, which constitutes a virtual community or social network. Unlike traditional formats, MOOC subscribers, who are linked by common interests can exchange opinions, queries, revisions etc., while the teacher officiates as facilitator, moderator and regulator.

An ORT University of Uruguay team took training at the University of Edinburgh in order to initiate MOOC e-learning in Uruguay. The Uruguayan educational project Ceibal Plan<sup>54</sup> made the request for a specific course, and in October 2013, the first MOOC computer-programming course was launched for Latin American adolescents between ages 12 and 17. The course, chosen to experiment with new technology, is on-going today; it lasts five weeks and allows the acquisition of skills and knowledge to program animation, stories and videogames through the Scratch application. On the second day of launching the initial course, 170 adults, mainly teachers, and 1,100 adolescents had subscribed. 32.05 per cent of the participants completed the course, well above the 7 per cent average rate for completion of MOOCs.

MOOC in Uruguay is a rich emergent solution because of its potential as an effective tool for knowledge dissemination, overcoming the restriction of physical presence and reducing costs through massive courses. In addition, the model allows the incorporation of more technological innovations in education proposals, not only making them more attractive but also introducing technology into daily learning routines. The MOOC methodology enables a person to learn within a virtual global community. The traditional structure of education is challenged because the student subscribes according to his or her desire to learn beyond academic recognition or certification. The novelty of this model in LAC is the use of MOOCs among youth and adolescents; in other countries, MOOC has primarily targeted adults at advanced levels.

## 6.2 Analysis of Emergent Solutions

These four cases from the region have been analysed to identify experiences that constitute emergent solutions and represent new learning opportunities for all children and adolescents.

Table 3 summarizes the analysis of the cases in relation to the proposed indicators. As it shows, emergent solutions in the form of mutations are recognized in the proposal area of the pedagogical node and in the organizational rules and structural conditions of the organization. The task is to identify elements that can predict the depth of a transformational proposal as well as its potential innovative power to provoke a paradigm shift towards a more just education.

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<sup>54</sup> The Ceibal Plan is an educational project in Uruguay that began in 2007 based on the Negroponte One Laptop Per Child (OLPC) proposal. Unprecedented in the world for its national reach, the plan allowed all children in state education centres to receive a laptop with Wi-Fi both inside and outside the classroom, providing connectivity to schools and environments throughout Uruguay. The Wi-Fi networks only allowed access of equipment designed by the OLPC group. Results are still being analysed and the programme is the subject of debate in Uruguay. See Ceibal Plan (2014).

**Table 3. Emergent Solutions and Analyzers**

Emergent solutions	Break with the pedagogical node				Break with the structural conditions of organization				Lower cost
	Content	Learning	ICT	Teaching	Differentiation	Cooperative work	Flexible organization	Presence	
New School (Colombia)	Curricular, primary education management	Active, participative and collaborative	No	Personalized attention of teachers	Flexible promotion, active self-learning system	Yes	Yes	Absolute	Yes
Tutoring Relationships (Mexico)	Learning communities and student leadership	Profound, collaborative and academic	Yes	Student as tutor	Break with class model, physical space and extended time	Yes	Yes	Relative	Yes
Service Learning (Region)	Education activities of community service	Action and service	No	Teachers and volunteers	Values of solidarity and citizen participation	Yes	Yes	Relative	No
MOOC (Uruguay)	Massive Open Online Courses	Active and dynamic	Yes	Teachers	Learning in a virtual global community	Yes	Yes	No	Yes

Table 3 shows that breaks or departures from the traditional model of teaching can be observed at different depths, and yet, all four case studies share important features.

In all cases, the learning content is defined more in accordance with the competencies to be developed in students than in relation to the conceptual content to be taught. All four cases challenge the culture of memorizing and reproducing information to adopt, instead, a new culture that seeks, processes, transfers and uses information to face situations and solve concrete problems. These cases all work with a combination of methods that stress collaborative work and investigation, preparing students to learn throughout their lives. Teachers, meanwhile, play a complex role. They are expert orchestrators of learning environments for the achievement of complex contemporary skills. In all four cases, in addition to teachers, other educators participate in virtual and non-virtual spaces. Furthermore, these experiences allow to expand the understanding of learning, breaking free from the idea that acquiring knowledge is exclusively done in the school setting.

In relation to the structural or organizational features, the four cases seek to separate from some traditional “rules.” To a greater or lesser extent, the cases question the principles of homogeneity, rigid organization and individual performance. They also challenge the absolute presence of the teacher, since all of them have aspects of learning spaces without the physical presence of an educator. Both the New School and Service Learning have broadened the profile of teachers by including members of the community in this role. In the case

of MOOC, technology plays a key role as the engine of all the elements of the learning environment. MOOC is an example of an emergent solution that can lead to profound innovation; it offers powerful tools to improve teaching and learning both outside and inside the existing structure.

Finally, the case studies are lower cost than traditional methods in relation to the results gained, with the exception of Service Learning. However, even Service Learning can be implemented in various settings and socio-economic contexts without increasing the cost of traditional education to achieve better results.

## 7. In closing





## 7. In closing

A review of education reform in LAC has demonstrated that it is not possible to solve the crisis in education without a new approach. It is not enough to improve the education content, provide more training for teachers or rely on major financing. Signs of the crisis in the region include a drop in academic achievement, a lack of interest from students, teacher discontent and school violence. Responses so far have produced only marginal results. The question is, how can the new society provide an equitable distribution of knowledge? What characteristics must such knowledge have to be “socially valid” and what organizational devices must be developed to make ‘lifelong learning for all’ possible?

Some authors have given up on reform and speak of reinventing the school (Elmore, 1990). The focus in traditional education has been on the interaction between someone (or something) who teaches and someone who learns, but a re-conception would demand a new organization of teaching/learning. As pointed out in the Forum of Toronto Schooling for Tomorrow <sup>55</sup>, the school is no longer necessarily a formal education system institution; if it is reinvented, it can become more of a “learning environment” (OECD Secretariat, 2008: 2). This learning environment may indeed be in a school, but many other learning environments legitimately co-exist and provide space for non-formal lifelong learning.

Facing the reality of limited and often poorly utilized resources today, the government and societies in Latin America and the Caribbean are facing a dilemma that requires an urgent response: either they continue providing poor quality education for the vast majority and only provide excellent education

for a very few, or they look for different alternatives to offer quality education for all, thereby responding to the challenges of contemporary society.

The education system as it is known today, was born in a historic moment in which the widespread distribution of knowledge was necessary. By working towards providing basic education and a minimum education to all, this education system fulfilled its mission effectively. Nevertheless, in facing the challenges of the 21st century and the emergence of the knowledge society, this education model is lacking.

Its structural basis - the type of knowledge to transmit, the characteristics of who learns, the way in which learning is organized, the purpose of teaching and the products required for this goal, among other things - have all changed so significantly that a true transformation of the education paradigm is necessary.

A combination of inappropriate indicators and limited accountability for the results has significantly negatively affected the improvement of education in Latin America and the Caribbean. The challenge is big; LAC has inherited a legacy of past shortfalls. Education in the region must leap towards the 21st century and take on a new role, primarily because economic growth, social cohesion, cultural integration, access to technology and citizen training all depend on it.

Around the world, various efforts have responded to these challenges by seeking new models. Many have focused on studying how the human being learns and in designing models with elements that favour up-to-date learning requirements. These

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<sup>55</sup> Schooling for Tomorrow Forum. Toronto, June 2004.

relevant efforts should be taken into account in Latin America and the Caribbean. However, the solutions they offer and the alternative thinking behind them are often based on different realities from those faced by the countries in the region. These lines of thinking cannot be adopted without serious examination and questioning given the different conditions (economic, political, social and geographical) that characterize LAC region.

Our research calls for an informed debate on the following questions:

- What are the emergent learning paradigms challenging the traditional system?
- What initiatives are emerging to provide more adequate responses to the learning needs of children, adolescents and young people according to the criteria of profound change?
- What are the challenges existing to new learning proposals that include or target the population that falls outside of the formal education system? What are the alternative strategies that address obvious factors of exclusion, such as people living in poverty and children involved in child labour?
- How can be created the conditions that make bilingual multicultural education viable in the region? How to comply with linguistic policies, design appropriate curricula and education material, and train teachers from and for bilingual and multicultural settings?

- What are the strategies in order for LAC countries to achieve their national objectives and international commitments in the consolidation of quality equitable learning?
- Which are the main concepts that must define the education agenda in order for all children and adolescents in LAC to learn?

The answers to these urgent questions are not simple. Instead of thinking about future scenarios, it is necessary to discover ways to make profound changes to the current system today.



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