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The pandemic as an opportunity for educational improvement at the Higher Level

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Inventing and innovating, creating knowledge and ideas, has an opportunity in acute moments of crisis. After the influenza pandemic of 1918, they gave birth to needs that humanity through social technology tried to cover, laying the foundations of modern public health and education.

The SARS-CoV-2 retrovirus, developed in Wuhan, China and reported to the WHO in December 2019, expanded exponentially. causing severe acute respiratory syndrome in populations of more than 100 countries in a few weeks. Among the impacts of the pandemic, needs, opportunities and key factors for the inclusive and sustainable growth of humanity were illuminated, also affecting the direction of planning and projections in Higher Education.

To face the health measures of social distancing for the prevention and slowing down of retroviral clonal expansion, the ecology of traditional learning underwent a significant mutation, resulting in distinctive features such as the hegemony of remote classrooms, the adequacy of planning according to priority content, expansion of digital skills, evidence of degrees of insufficiency and unavailability of Internet connection quality, development of resilience and adaptability of young people and university professors; but they were not the only movements, an opportunity underlies.

We analyze in this essay, the potentialities of reordering the role that it is possible to grant to the Higher Level in crisis environments, with a horizon in the post-pandemic strategic positioning for the outsourcing of the developments that research and academic action produce.

Keywords: *higher education, COVID-19, educational innovation, online learning*

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Introduction

Since time immemorial, humanity has been plagued by diseases more or less widespread in time and space, not always representing a serious threat to life, cultural property and values.

When this was the case, together with the great demographic extension of the agent, the contagious power and the lack of efficient response, the phenomenon was outlined within the category of "pandemic". It could be said that since man began to domesticate species and to live with them, pathogens spread their wild genes, with vital risk to the human physioeconomy.

If we go through the history of humanity, in this sense, we will find three outstanding events, the black plague of the fourteenth century in Europe, the American pandemics during the time of the conquest and the Spanish flu of 1918.

But if we isolate only the flu, this is the fifth time we have suffered from it, first it was the Spanish in 1918 (H1N1), then the Asian in 1957 (H2N2), later the Hong Kong in 1968 (H3N2) and the swine in 2009 (H1N1pdm09), and thus, as the retrovirus has been mutating, society has changed by adapting, naturalizing, at times alerted and at other times relaxed.

The figures show that, 17 months after the first outbreak in Asia in December 2019, more than 1,600,000 million deaths were registered in America, in Europe a little more than 1,100,000, double that in Asia, and less than 10 % affects Africa compared to America and a little more than 1,300 in Oceania. The WHO also warns that the actual death toll could be between 6.8 and 10 million, the data load being deficient depending on the country.

The pandemic phenomenon and its management, produced in the educational service of the higher level -human priority (OEI, 2018) - a great deterioration, predicting great difficulties for its recovery, it had reached a historical number of pre-pandemic operation with 3,724 services of institutions of Higher education in the Ibero-American region, inhabited by 30 million students, 70% of them the first in their family to access a university institution, but this disconnection produced in the first stage that 7 million students dropped out of the system.

Andragogy and didactic-media transition

The technological means for didactic production were always in the plot, but now, abruptly, at the risk of dominating a need, they took full prominence, leaving less space for reflection on the meaning and interest of higher education.

When the human-machine is amalgamated (Schmucler, 1995), one could think of an educational universe with hegemony on the platforms and it might be asked what place is reserved to reflect on the meaning of education and andragogic processes?

It is in this sense that we can analyze with respect to the subjects of higher education, some possible losses of sociability, interaction, proximity, and links, also difficulties to become familiar with the new rules and with the logic of life university especially in the new ones, thinking about the adaptation to the symbols and codes of the university life, new languages; An example of this were the limitations for interventions aimed at working on academic writing and comprehensive reading and oral expression, essential issues to lay the foundations for continuity at the higher level; Other non-minor aspects led to a

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disarmament such as internships, sections of learning where practice in the territory reaches a higher density in health centers, factories, other teaching centers and intermediary agents of the outsourcing of educational experiences. These spaces were no longer an option due to risk, which triggered discussions in different cloisters about the legitimation of knowledge and the processes of promotion and accreditation.
Just as we think about the negative aspects, it was necessary to rescue a change in mobility, the lower load of time in transfers, the costs and risks of that agenda, the possibilities of multiple interaction almost simultaneously without transnational limits at low cost. The value to be able to identify, review, reflect, share, debate and collectively and individually build knowledge, even in catastrophic situations for humanity, has become evident.
Currently, there are more than 30 mediating alternatives for learning, online platforms and combined with academic content hosting models. Some with free access, combining LCMS (Learning Content Management System), LMS (Learning Management System) or EVA (Virtual Learning Environment) such as Blackboard, Moodle, Formare or WebCT, these platforms provide a hardware architecture or a support structure, in which different software programs can be executed.
The more advantageous they are when trainers can customize their own online courses effectively, without the need for advanced web programming skills (Zhang and Wang, 2005).

The solutions that have overcome the first wave of crisis in the face-to-face system have had the following characteristics:

• Personalization. Adaptation to the ecology of learning (Lerís and Sein-Echaluce, 2011).
• Intensity. Attention to recent instructional learning, update (Griffiths and García-Peñalvo, 2016). In this sense, the emergence of MOOCS as a technology is an indicator.
• Opening. Congruent with the nature of online knowledge (Ramírez-Montoya and García-Peñalvo, 2015).
• Complexity. Complexity theory as a conceptual approach. Learning as a complex and open activity, not standardized (Lipman M., 1998).
• Hierarchical. Change the organizational structures to distributed networks "redarquías" (Cabrera J., 2014).

All solutions must converge in a common property, which is the sustainability of the higher learning system, avoiding a drop in quality, promoting inclusion, not allowing dispersion, taking into account the diversity of potential users (Colás-Bravo, 2018).
Sometimes the scalability process (Bondi André B., 2000) failed, that is, the property of increasing the work capacity or size of the system without compromising performance and quality was not possible.
It is increasingly evident that technology cannot solve educational problems by itself, the solution lies in the people and the agreements on the intentions, then on the process systems for quality assurance; technology can help in all these areas, but first we must make sure to share the interest, some studies show that many teachers continue to teach in a linear and sequenced manner, regardless of the availability of technological resources (Coicaud S., 2016).

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Propedeutic of death

Did we need to have worked death as competition? located beyond the professional field, from an integral dimension, constitutive of learning to think and learning to live, to be and to know how to act. These contexts of risk in our lives, is where we would expect aspects for reflection to emerge, with a humanitarian sense, flooding attitudes typical of our species.

If the competence is "... the ability to adequately mobilize a set of knowledge, capacities, skills and attitudes necessary to carry out various activities with a certain level of quality and effectiveness ..." (Alberici and Serreri, 2005), it was evident that, with the COVID-19 pandemic, especially in Latin America, we have not learned about death, almost nothing.

One of the possible dimensions for the analysis is the principle of habituation, when certain individual strategies repeatedly do not trigger the expected results, or it is believed that the results are not significantly modified by individual behavior, a certain degree of demotivation is configured, a helplessness learned (Seligman, MEP and Beagley, G. 1975).

It is in this sense that mass, serial death, almost dehumanized by the mass media, without a direct culprit in sight, can make motivational transduction, subtracting the defensive impulse to initiate any action, and leading to apathetic, inactive attitudes, unmotivated, also in cognitive aspects, such as the difficulty to generate new learning in stressful situations, and in particular for the subsequent learning of controllability and emotions, such as the appearance of depression after the decrease in fear, in the face of learning generated by situations that the individual cannot control.

Knowing and recognizing mortality is essential to have a meaningful life; without failure, without pain, the human being does not become aware of himself (Santos M.A., 2004). Death requires learning to develop throughout our lives, not as the final stage of a life cycle, but as a circumstance, which, as the pandemic demonstrated, prevails, without the exclusive features of old age. It is also cultivation to recognize that vulnerability exists, however provisional it may be, and that we must abandon limitless ideas of self-determination to hold our finite perspective accountable. An educational opportunity to form more critical, responsible, mature and understanding humans, teach to respect and support the grief of those affected and to channel the anxiety associated with death (Feijoo P. and Pardo A.B., 2003).

Work in Higher Education

Teaching activity under the virtual modality not only precipitated the reconversion of didactic and andragogic knowledge, but also in those teachers who had no previous experience in education modalities completely mediated by information and communication technology, without face-to-face and no longer time To be trained in the face of urgency, they suffered their forced exit from the system, in others a certain resistance has arisen promoting face-to-face classes in virtual mode, "coronateaching" without changing the curriculum or the methodology.

This abrupt turn of the modality caused frustration and overwhelm due to the rapid processes of assimilation of experiences in the field of educational sciences not previously

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gone through. Francesc Pedró, director of IESALC UNESCO International Institute for Higher Education in Latin America and the Caribbean (IESALC) stated in …… that "… one of the disadvantages faced by educational personnel in teleworking is that it highlights inequalities gender issues at the workplace level and how it has an important impact on women and their productivity doing their work from home… "

It is also an opportunity to measure the capacity to recover through compensatory strategies the losses in learning, thinking particularly of the most vulnerable students who have found themselves in difficult conditions for pedagogical continuity.

Redesign the teaching and learning processes with a view to hybridization, that is, the combination of face-to-face and non-face-to-face activities with the consequent reconversion of university teaching work, help to redefine tasks, create a technological environment and efficient collective bargaining.

Redefine the contractual modalities of teachers, taking into account the implications of academic telework and online teaching that, without a doubt, will become part of the new daily life of the institutions of the level.

Connectivity has also been a challenge, in total, worldwide there are 1.5 billion additional people connected if compared to the 2015 records. In Latin America, according to the report by Internet World Stats and the Economic Commission for Latin America and the Caribbean (ECLAC), the region went from having an internet penetration of 43.4% to 71.5%, even exceeding the current world average of 62%.

North America, with 90.3% penetration, and Europe, with 87.2%, are the regions with the highest figures. Brazil, with 150.4 million Internet users, is the country that most reports users in the local context, followed by Mexico, with 89 million, and by Argentina and Colombia, with 35 million each.

Regarding penetration, Chile is the country with the best results in Latin America, with 81.6% for 15.6 million users, followed by Uruguay, which registers 2.7 million users connected to the web for a penetration of 79.4%.

All Latin American countries have a penetration higher than the world average, which is 58%, with the exception of Honduras and Nicaragua. Even Chile exceeds 80% and Argentina and Uruguay are close to achieving that level.

Adaptations at sight. The Argentine case

According to the World Economic Forum (2020), if we focus on communication technology and means of access to information, a strong inequity in access to education is revealed in times of pandemic.

Higher education in Argentina includes access to the university sector for both undergraduate, graduate and postgraduate courses. In general, this sector has experienced a high rate of growth, consolidating some of the highest gross rates of higher education in Latin America (García de Fanelli, 2006).

Although according to data from (UNESCO, 2018) in pre-pandemic Argentina, 6 out of 100 students graduated from Argentine Universities, compared to Brazil and Chile, whose result is more than double: 15 and 14 respectively. The ratio of graduates / entrants averaged 26.9% for national universities, while for private universities this ratio reached 41.6%. On average, 51% of students from national public universities did not pass more than one

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subject per year and only 14.8% passed 6 or more subjects, which are necessary to complete the degree according to the theoretical time. These data are important to make an adequate post-pandemic projection.

The Argentine university system, of the State management is not tariff and the income is unrestricted, if different indicators are analyzed with those obtained by other countries, it is characterized by the diversity of performance levels among the 57 universities that compose it, both with regard to their budgets, the relationship between graduates and new entrants or graduates per student, the number of subjects passed per year and the number of students per teacher.

The efforts made to continue teaching courses in virtual mode have been remarkable in all places and, given the lack of experience with similar situations in the past, the transfer has not been easy.

In recent years, the country has improved Internet access in homes: according to data from the National Communications Agency (2020), in the first quarter of 2014, 49.6% of households had fixed Internet access. The most recent data, from the third quarter of 2019, show that the percentage rose to 62.8%. The speed of that connection also improved: it went from 3.6Mbps in 2014 to 28.3 in 2019.

Higher education systems, as a whole, have reacted in solidarity and practically worldwide, they have acted in a uniform way: they have continued to teach using pedagogical modalities that do not require physical assistance.

Most educational institutions of all levels do not have their own programs for holding virtual meetings and / or conferences, which is why they find it necessary to use meeting and / or virtual meeting platforms such as Zoom, Hangouts, Google Meet, Jitsi Meet, Webex Meet, among others.

The situation was analyzed by different pollsters and regions, an example was carried out by the Provincial Coordination Council with the Scientific and University System of the Province of Buenos Aires and the National Communication Entity (ENACOM) there it was reflected that on the 25th, 33% of the students had to drop subjects due to difficulties related to connectivity. Worked on the interview on 35,721 students, 45.33% declared problems that have to do with connectivity or lack of equipment and more than 17% expressed problems of adaptation to the modality both on their part and many teachers, lack of time or Either external problems that are highlighted or enhanced during the pandemic.

Doubts arise when one begins to hypothesize about the likelihood of the prolonged duration of this exceptional situation. If so, the effects on the system will be multiple.

The opportunity

Not all the houses of high studies will manage to reach the coast, in some cases it will be evident that they have barely managed to place a patch on the boat that deflates to the rhythm of the small waves.

It is possible that on multiple occasions during the pandemic, educational technology was used in the service of reproducing extremely traditional forms of teaching and learning, an aspect that should be reviewed.

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The modifications require the intervention of specialists in evidence-based education, didactics, curriculum, technologists, managers, administrators and directors. These agreements require time for comparative analysis, so it is thoughtful and recommended that even during the pandemic, the cloisters are making this effort.
As has been calculated (IDB, 2020), the difference between the countries that invest the most in education in the most developed educational systems and those that invest the least level in Latin America is 17 times. After the pandemic, this distance can be expected to increase, and greater inequity in access and quality is seen. The pace and degree of investment and adaptation is fierce. One of the factors is the reduction in income that will occur in applicants for global university services, which will lead to a significant and unexpected demand for vacancies in public or low-fee establishments; there the risk will be if they are prepared to receive this new transnational registration as in the Argentine case.
The physical infrastructure that has not suffered wear and tear due to daily use during the pandemic, had to be sustained during inactivity, the return will put the facilities and their maintenance to the test, it is enough to specify, as data, that, in a context of high inflation in the countries of the Region, prior to the pandemic, there was a real decrease in the university budget on average according to OECD and UNESCO data.

There is a great opportunity in sight that involves rethinking university models, higher education institutions will undergo a transformation to stay in the game, if we take the principles of evidence-based education we could document the pedagogical changes introduced during the crisis and its impacts; measuring the negative effects of emergency distance education; thus, the experience can be capitalized for the redesign; on the other hand, expand the scale of digitization and compose a hybrid system that projects a future in which a single form of educational technology does not hegemonize, combining several to ensure that all students are reached, this opportunity for improvement also prints speed to develop strategies in the model of curricular integration, taking the theoretical nuclei of various disciplines and rethinking the priority contents, reducing the inflation of the curriculum and seeking significant impact, without renouncing equity and inclusion; also taking as a basis for the comparative analysis, the employability in the face of the requirements of the human development that is foreshadowed; the health emergency broke into the daily work of training, research and extension of teachers, in whom there will be a great opportunity out of the emergency, the learning models based on problems and the sharing in multidisciplinary analysis tables on the experiences between Colleagues should be a good way, illuminating a new forum, where it is proposed to deepen qualitative and quantitative strategies of monitoring and accompaniment in virtuality to the management teams, teachers and students; it will be imperative to create better indexing databases and libraries of free access to academic reference documents, for students and teachers from any of the region.

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Closing words

The impact of the pandemic and its management has yet to be evaluated. In terms of quality and equity, criticizing improvisations and methodologies in the urgency does not seem like a challenge.

To make a weighted, useful analysis requires data, contemplate and understand the situation in detail and offer proposals for improvement.

All dimensions, even the most visible ones, have not yet been fully documented, drafts are edited explaining the educational, socio-emotional, technological, labor, financial consequences; it is important at this stage, the development of a critical community that improves its research potential, is capable of synthesizing global comparative processes and understands the integrated disciplinary interests that humanity needs to attend to, since above all the pandemic is a great opportunity for the improvement of the role of Higher Education in the World.

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