

# **Covid-19 Modifies Student Psychology in Front of Remote Learning**

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*The research shows that university sector management can successfully adapt to the digital field in a newly emerging reality. To maintain the economic and operational universities' viability, from a theoretical contextualization that part of Abraham Maslow's thought identifying the skills, limitations, and risks facing universities and contrast them with the United States vs. Latin America reality due to the COVID-19 outbreak. Additionally, the research uses the theory of restrictions (TOC) to identify an action plan within HEIs and develop projects that allow adequate decision-making and subsequent monitoring and control. Generate behavior changes in the university community, and create incentives reducing anxiety levels due to COVID-19.*

*Keywords: COVID-19, remote learning, behavioral student psychology, educational project management*

## **INTRODUCTION**

In the context of COVID-19, university institutions, the student and teaching population, face various challenges such as economic, technological, psychological, and health. Each university adapts according to the region, environment, and possibilities. Latin American universities find more difficulties implementing technology and teleworking due to the limitations of access to Internet services, which mainly affect the student body and sometimes the teaching staff.

Universities develop alternatives to meet the university population's expectations and needs and assume financial commitments with suppliers, payroll, and service payments, among others. At the same time, it is necessary to mention that the development of these strategies contemplates the best use of available resources, the optimization of human, technological and research capital to generate income that allows the operation of the institutions to be sustainable. It should be noted that the best use of resources includes implementing teleworking and remote education through tools such as the internet, radio, and television. At the same time, it is appropriate to manage and take care of human capital, reducing the impact on the physical and psychological health of the university population by applying hygiene and social distancing measures within the institutions, where appropriate.

However, for resource management to be effective, it must be impacted by adequate decision-making, vital management in cases of crisis such as the current one. This decision-making begins when universities must make adjustments for a systematic transition to digital. Concerning the Latin American region, adjustments frequently occur in the economic area. Costs are reduced in sectors with a pre-existing deficit, and the Pandemic will deepen, in most cases, the shortage in cash flow. On the other hand, for the United States, accelerating the digitization process will be the most effective way to minimize losses.

The purpose of this essay is based on showing the directors and teachers information on topics. Such as remote education, teleworking, and the effect on the psychological health of the student population in each region; provide tools and alternatives that allow them to implement projects, manage correct decision-making, implement sustainable management models, and promote a rapid leap to digital.

Each university handles different contexts and needs according to the region and environment. Therefore, the tools presented within the essay aim to facilitate adaptation to each particular reality within the general context of COVID-19. The purpose will be to minimize risks, increase opportunities, maintain the operational viability of the institutions, reduce economic losses, optimize resources, human capital; and, comply with the regulations implemented by the governments of hygiene and social distancing through teleworking and remote education.

Generally, people and institutions are testing in each difficulty. From this arise motivation and innovation. However, it is appropriate to mention that this search for innovation differs according to the surrounding context. When analyzing the risks inherent to COVID-19 within universities in Latin America and the United States, it is observed that university educational institutions have been testing in their different areas. However, each one has been able to implement creative and innovative ideas and projects that allow solving technological, communication, transportation, and regulatory limitations imposed by the region's governments.

In the same way, it is observed, as a risk factor for the development of university work, the affectation in the physical and psychological health of the student population. It is convenient to emphasize COVID-19 has not made a social, cultural, or economic distinction. It comes to impacting the psychological health of the student population, which has been permeated with symptoms of anxiety and depression, mainly due to the difficulty in managing emotions, as students have been subjected to sudden changes such as remote education and social distancing.

According to Pride (2014), "the behavioral management theory, also known as the hierarchy of needs by Abraham Maslow, provides useful guidelines for business management" (p. 216). This theory, coupled with sound risk management, can guide educational institutions to identify their needs, weaknesses, and available resources to implement improvements and projects that allow them to adapt quickly and face the crisis.

Although, this research does not study other management theories, such as Ludwin Von Bertalanffy's systems theory, since it focuses more on the attrition and entropy of companies and not on the construction of processes through processes of organizational psychology like Abraham Maslow's theory.

The essay complements Maslow's thinking with the theory of restrictions (TOC) to achieve the proposed objectives applied to education. Since this allows institutions and the university population to identify the risks to achieve goals such as adaptation and adequacy of resources to overcome the limitations caused by the COVID-19 outbreak, at the same time, implement strategies according to your own needs and the environment. Learn theory as an operations management philosophy is not included in this essay because it does not provide a way to prioritize the steps of the strategy, as does the theory of constraints (TOC) (Groop, 2012, pp. 1-179).

## **THEORETICAL CONTEXT**

According to the Royal Spanish Academy (2020), the root of the word risk comes from the old Castilian word Riesco which means cliff, due to the threat it involves or entails (p.1). In this essay, Maslow's behavior management theory is used to identify and face the risks inherent to COVID-19 within university institutions in Latin America and the United States, with a particular look at Venezuela and Florida, as a sample of the regions. I use the theory of restrictions for implementing strategies that help improve universities' economic and academic performance, minimize the psychological impact, generate changes in the behavior of the university population, reduce implementation times in the development of projects, and obtain sustainable results over time.

### **Reflection Between COVID-19 and Hierarchy of Needs Theory**

The American Psychology Association shows Abraham Maslow's theory from a humanistic perspective, where the needs contrasted with the motivational goals arising from higher needs are emphasized. Both institutions and individuals need to satisfy basic needs to access higher needs and achieve motivation equivalent to the level of needs (Maslow, 1947, pp. 370-396).

But who is the forerunner of this critical theory? The father and forerunner is the psychiatrist and psychologist Abraham Maslow considered the father of the hierarchy of needs theory, based on concepts of self-realization, levels of consciousness, and transcendence. This theory paved the way for successive exponents such as Frederick Herzberg and Clayton Alderfer, who continued their work in this field and made great contributions. Frederick Herzberg published in 1959 with the motivation to work. He proposes to examine additional intrinsic and extrinsic motivations to the theory of basic needs to create the motivation-hygiene theory (Canady, 2020, pp. 4-6). Between 1966 and 1989, Clayton Alderfer developed the ERG theory to expand the hierarchy of needs and group human needs into three categories: existence, kinship, and growth (Alderfer, 1969, pp. 142-175).

In his theory, Abraham Maslow classifies man's needs according to a hierarchical order, moving from basic needs to higher-level needs into five categories of needs: physiological, security, belonging, esteem, and self-realization (Uko, 2020, pp. 567-583). The analysis of these hierarchies of needs has an upward movement where the population's behavior will move from the external to the internal, prioritizing the individual and leaving the collective.

An example of this transition from external to internal; and from collective to individual has become evident in the COVID-19 outbreak, with the implementation of confinement measures imposed by the majority of governments in the region, the closure of borders, limitations of flights between countries, restrictions in tourist ports of embarkation, closure of schools and universities as part of the measures implemented by governments to prevent the spread of COVID-19 and save lives. On the other hand, measures to restrict social contact have changed the consumption patterns and behavior of the population. Distance education has felt a sense of isolation in students, increased anxiety, decreased concentration, and caused cognitive difficulties to adequate unemployment at the academic level.

In this ascending or pyramidal scheme proposed in Maslow's theory, basic needs are located at the base of the pyramid and are comprised of needs: 1) Physiological: Health, rest, food, 2) Safety: physical, employment, resources; and, 3) Affiliation or social needs: love, family and friends. The needs considered higher level located at the top of the pyramid comprise the needs: 4) Estimated: trust, self-recognition; and 5) Self-realization: problem-solving and acceptance of facts.

### **Reflection Between COVID-19 and Constraints Theory**

Eliyahu Moshe Goldratt (1947 - 2011) was a renowned businessman, educator, writer, philosopher, and scientist. Dr. Goldratt was an Israeli physicist, a forerunner of the optimized production technique known as Theory of Constraints (TOC). He developed new philosophies of thought and management, such as the ThinkingProcesses, Drum-Buffer-Rope, CriticalChain Project Management (CCPM) derived from Constraints theory (Marques, 2018, pp. 462-472).

The theory of constraints is an operations management philosophy that seeks to achieve higher performance and overcome limitations (Leanmanu facturing, 2008, p. 1-6). This theory serves as a model to show how the earnings ratio is affected by decision-making throughout. According to Sahay (2003), this theory has been designed to identify restrictions, implement changes, and a reliable route for planning and disciplined execution, aligned with the activities and needs of the institution (76-83).

Dr. Eli Goldratt founded the non-profit organization TOC for education in 1995 to provide people with tools and structures to analyze and resolve personal and interpersonal conflicts in school environments. Using topics and problems from everyday life in school curricula creates healthy and enjoyable interactions and discussions that increase student interest and increase skill development, promoting creativity, self-thinking, and responsible behavior in decision-making. This method has been successfully disseminated in more than 22 countries, including the United States, the United Kingdom, and Israel. In Latin America, the flagged countries are Mexico, Peru, Chile, and Colombia.

A proposal of the theory of constraints is that collaboration between institutions is vital to join efforts, align processes, create value for stakeholders, and achieve effectiveness in achieving the objectives are difficult to act individually. Suppose this premise is transferred to the COVID-19 crisis. Then, during the Pandemic, governments, States, academic institutions, private companies, and civil society have joined forces to create ties and transmitting to cope with the most difficult stage of the temporary closure of businesses and educational institutions. Directing students, employees, and teachers to digital, telecommuting, and online classes. Waiting for a gradual reopening and return to classes.

HEIs in Latin America have joined forces, drawing up agreements with private companies, industries, businesses, and in cases with governments. The agreements reached between higher educational institutions and other institutions in the region have served to implement business courses, provide training for teleworking, and reach agreements with research laboratories to manufacture and sell products. For example, those derived from surfactants will enable university entities to maintain operability and economic sustainability.

According to Leanproductions.com (2019), successful implementation of the Theory of Constraints has measurable benefits on return on investment and productivity (p. 12). You can also perceive other benefits such as:

**Increased profitability:** profitability is the main objective when implementing the theory of constraints (TOC), which translates into benefits for companies, higher educational institutions, university populations, and stakeholders.

**Improves critical areas of the system:** Often in HEIs, the limitations and weaknesses are found in the assets and resources available, such as economic limitations due to enrollment or State funding, technological limitations due to weaknesses in the implementation and use of software and platforms for online education, limitations in human capital due to deficiencies in the training of administrative professionals and teachers in teleworking and remote education.

**Improving capacity and reducing execution times:** The goal is to optimize delivery times and meet project objectives. This is achieved using the least amount of resources and reducing activities that do not add value. When implementing a project within the HEIs, the planning, execution, delivery, evaluation, and control stages must be taken into account to execute the project on time and with the estimated resources.

As mentioned above, it is important to integrate or make agreements with various organizations when planning and executing the project within higher university institutions. Institutions that add value to the project can link with banking institutions, non-profit institutions, and other institutions that can contribute to social, psychological, technological, and financial areas.

Using the theory of constraints (TOC) will allow educational institutions to adapt successfully and overcome the emergency caused by the Pandemic. This strategy facilitates the creation of value for the parties involved at each stage of the process. It provides reliable measures of global performance that help those involved to evaluate the procedures. At the same time, it should be considered that this strategy requires coordination of the parties to adapt the operation to the institutional process. That is, it is necessary to coordinate and engage the various areas involved within the university institution. An example of this will be to promote better communication between the administrative staff, teachers, and the student community, through teleworking and online classes or, failing that, remote education, using various materials delivered on paper. And at the same time reduce or make optimal use of financial resources.

### **Evidence of the Problem**

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2020) and Statista (2020), by September 2020, the number of affected students amounted to 48.5% around the world. More than 800 million students could not join classes due to the Pandemic and difficulties reopening the school system in more than 52 countries. The Latin American region was particularly affected. By August 2020, around 144.9 million students were affected in Latin America by confinement measures. Currently, most countries in the region continue to close the educational system partially. In the case of Venezuela, the affected student population amounts to 6.8 million students of all ages.

The Census Bureau of the United States (2020) showed that in the United States, in August 2020, about 93% of the student population held classes online. Universities in the United States took complex measures that affected the operational and economic part of the institutions in order to protect the health of students and teaching staff, adopting the recommendations given in the guide “The Centers for Disease Control (CDC). Community Mitigation Guidelines to Prevent Pandemic Influenza, Morbidity and Mortality (CDC, 2017, p. 1–34) y the World Health Organization (WHO). Considerations for school-related public health measures in the context of COVID-19” (WHO, 2020, p. 1-10). The universities unified 3 criteria in decision-making: 1) move classes to online mode; 2) reduce accommodation within universities, and 3) implement teleworking. Florida decreed the reopening of educational institutions in hybrid mode (online - face-to-face) by September 2020.

### **Use of Materials in Remote Education in HEIs in Latin America and the United States**

It is interesting to compare the most used tools for distance learning in Latin America and the United States. During COVID-19, the institutions of both regions made changes in the methodologies, means, and tools used for education and distance work (APA, 2020, p.4). Teaching posed great challenges. The need arose to use channels other than the use of the internet to disseminate information. Resources such as paper, television, and radio were used throughout Latin America in countries with the lowest internet connection and speed rates. Countries with difficult access to rural areas, logistical difficulties, and less infrastructure.

### **The Psychological Impact of the Student Population in HEIs During COVID-19**

The main difference is not only far from teaching materials and tools, such as the internet. The psychological effect of the Pandemic on the student population is another factor of concern that concerns governments, families, and the educational community within HEIs. According to The American Psychological Association, confining families to the home increases anxiety due to disruption in routines, changes in activities, and poor social interaction. This isolation is the cause of the increase in depressive disorders and the consumption of narcotic substances (Clay, 2020, p.4). Experts have warned about the increasing levels of anxiety in the general population. Among the population groups that have been highly affected by these depressive disorders are students at all levels and higher-level students in particular.

University students present high and moderate levels of depression, and anxiety due to the Pandemic, measures of confinement, low interaction with their classmates in the classroom, and changes to the virtual modality have produced a substantial decrease in student performance and low academic indices. The main causes of this decrease in student performance are given by: loss of creativity, lack of interest in conducting research, decreased productivity, difficulty concentrating and gathering information.

In the United States, around 85% of students suffered, to a greater or lesser degree, these symptoms during the 2020 academic year (Cooper, 2020, pp. 1-17).

According to the United Nations International Emergency Fund for Children (UNICEF) (2020), in Latin America and the Caribbean, 46% of the young population, including students, shows a considerable decrease in motivation to carry out activities daily or other activities. Most have high levels of anxiety and depression due to loss of family income, time management, worry about the future, lack of support, and unfulfilled expectations.

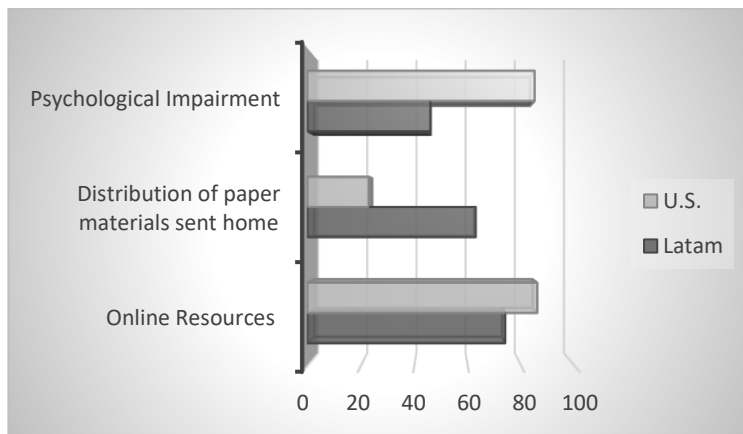
Anxiety problems in Latin America was accentuated the dropout in higher educational institutions, coupled with this are added factors such as loss of classes, learning level, deficiencies in technological skills, limited internet service, and difficulties on the part of teachers and students in the implementation of methodologies that continue with the academic program. The decline in concentration and creativity in academic activities has diverted students' interest, focusing on technological activities of immediate payback, such as games and social networks. When a student focuses his attention on electronic devices, movies, series, and cybernetic activities, he obtains a greater lack of social and family interaction. That produced depressive symptoms such as low spirits, sadness, discouragement, irritability, and change in sleep patterns.

UNICEF published “Key messages and actions for COVID-19, prevention and control in schools” (UNICEF, 2020, pp. 1-13, as cited in Morales, 2020, pp. 353-366). This guide presents guidelines for

implementing educational methodologies and psychological support programs for students who feel the need to ask for help to their physical and mental well-being. Student population with financial difficulties or special learning needs. The guide also guides parents and teachers to promote health principles and encourages educational methodologies, monitoring and control remotely.

Next, a comparative graph between Latin America and the United States regions are shown, a graph that includes data obtained on the central axes of this essay. That is, percentage averages corresponding to digital resources and paper materials. There is also a comparison of media or channels such as the internet, radio, and television used to teach remote teaching at the university level. Similarly, the impact on the psychological health of the university student population in the United States and Latin America is shown.

**FIGURE 1**  
**COVID-19 IMPACT UNITED STATES VS. LATIN AMERICA**



Own elaboration based on Statista (2020) and The United States Census Bureau (2020).

To better understand the graph, I present a discussion of the data presented to make the dissemination of the information more friendly and enjoyable, as part of the argumentation framed in the central axes of the essay. And discuss the impact of COVID-19 effects in Latin America and the United States regions, within the HEIs and the student population.

The North, Central, and South America region was impacted by the COVID-19 outbreak, like the rest of the world. However, the social and economic conditions, the health system, and the educational resources from region to region. In the first quarter of 2020, educational institutions closed their doors, and the university population was affected in many ways. Three of these important aspects are the use of resources, teaching methodology, and impact on the behavior and psychology of students.

Despite the intention of some countries to accelerate a gradual reopening of schools and implementing a hybrid class system, a few countries maintain confinement measures and a slow reopening of the university system, especially in countries with education systems—poor health. School and university dropouts have increased considerably compared to 2019 by an average of over 13% for the United States (The United States Census Bureau, 2020) and over 38% for Latin America (UNICEF, 2020).

It was easier for the United States to direct educational resources to the online system because it has higher levels of services and internet speed, technological platforms, and greater economic resources to equip and train its teachers and students and transition to digital. The use of online resources, on average, was close to 86% for the United States (Statista, 2020).

The distribution of online education resources provided by the institutions was more used by students with higher family incomes. On the contrary, the resources distributed on paper were used by institutions located in areas with fewer resources or lower family incomes. The student population in the United States was affected with anxiety and depression symptoms, on an average close to 85%. Symptoms that persisted during the year 2020 (Statista, 2020).

In Latin America, studies carried out in 29 countries, during 2020 complementary teaching systems were used. Most countries adopted the online mode in regions with the best internet service and speed, such as major cities and state capitals. The distribution of online resources and materials showed a behavior close to 74% (Statista, 2020).

For the less populated areas with little internet service, in Latin America, printed materials were distributed, distributed house by house in 63%, information dissemination via TV in 52%, and radio in 31% (Statista, 2020). The main difference between online or paper distribution lies in logistics, scarcity of economic resources, and precarious services present in rural areas of Latin America. However, the statistics reflect a lower average percentage of 46% of students affected by symptoms of anxiety and depression, in contrast to the figures sent from their peers in the United States (Statista, 2020).

### *Guidelines for a Proposal in University Institutions*

When making a risk assessment and designing an action plan to face the crisis that COVID-19 has caused to higher educational institutions and the university population, it is pertinent to consider the present needs and the limitations of the environment. Every human being or institution has different needs, according to the environment in which it operates. As previously stated, the hierarchy of needs theory allows each deficiency to be identified according to the level of priority or importance at the time it is found. Therefore, the needs are related to individuals' behavior and the institutions they work or study.

But who and how to find solutions to these deficiencies or needs within HEIs? A multidisciplinary group of professionals must understand a project to mitigate the effects of COVID-19 within HEIs. Directors, teachers, administrative staff, and workers, each one responsible for their areas and a board of directors with adequate information for timely decision-making.

Hence, developing a project to mitigate the emergency allows proper decision-making and opens the door to proper monitoring and control to generate incentives and motivate changes in behavior. In this way, reduce anxiety levels due to COVID-19 and embrace solutions for the entire community within higher educational institutions.

It is suggested to strengthen the development proposal for an emergency plan or project and apply the restrictions' theory (TOC). That would pave the way to optimize strategies, increase economic alternatives to institutions, and transition successfully towards teleworking, online education, and remote teaching methodologies.

### **IES, According to Maslow's Holistic View**

According to his contributions and influence, Maslow is located within holism and humanistic psychology. That is why it seems appropriate to use this theory to frame, identify and humanize the crisis facing university institutions due to the COVID-19 outbreak. In general, both these institutions and the people who make them up must assess, identify their needs, limitations, and risks developing an action plan that will allow them to successfully overcome each difficulty, build resilience, and maintain development and self-realization. Starting from awareness, acceptance, and effective decision-making.

### **Identify Needs**

To identify the needs, it is appropriate to take the hierarchy as a point of reference, according to Abraham Maslow. To determine the level of needs in which the institution of the university population finds itself and the needs that it aspires to solve. In this case, it is about: protection of the health and nutrition of the university population, protection of the employment of teaching and administrative personnel, protection of the psychological health of the university community, maintain motivation for research and problem-solving.

### **Identify Limitations**

From strengths and weaknesses of the university institution, limitations in internal and external conditions. The institution must evaluate the possibility of an event occurring, the consequences, and the

benefits of identifying and mitigating the risks and weaknesses. The main risks and limitations to be evaluated are internal and external:

#### *Internal*

We mainly find the limitations of an institution in the technological and personnel area. For example, the selection of public or paid platforms as teaching tools, preparation of teaching staff to make the transition to digital media, directing and training administrative staff to telework, and promoting spaces for disseminating research and teaching.

#### *External*

The country's risks and external limitations are given by the social, cultural, political, economic, and legal environment. To mitigate external constraints, it is convenient to make links and collaborations with public institutions or non-profit organizations, establish collaborations in the area, legal and obtaining resources, scholarships, and promotion of the institution.

To make more explicit the fact of how to identify risks and limitations according to each region? An analysis is presented according to the scheme and thought of Abraham Maslow, particularly for Latin America and the United States.

### **Latin America and HEIs From Maslow's Holistic Perspective**

So what are the needs within HEIs in Latin America? In analogy with the thinking of Abraham Maslow, it is identified that the COVID-19 Pandemic has caused multiple deficiencies and needs for readjustments and adaptation. In this sense, Latin American HEIs suffer from the new problems caused by the Pandemic and pre-existing problems that have been accentuated with this extraordinary and unexpected event for the university environment and the population in general. The universities of Latin America suffer from a wide range within the hierarchy range proposed by Maslow. Let's analyze each of the needs.

#### *Physiological*

Starting from the basic or survival level, I will mention needs such as preserving the physical and psychological health of the teaching, administrative, worker, and student population. Food needs of the student body, especially in rural areas and low-income families, caused by the closure of university canteens and difficulties in transportation and housing within the IES.

#### *Safety*

The main thing will be to maintain job security for the teaching, administrative and worker personnel. To mitigate the anxiety symptoms triggered by the uncertainty of a possible decrease in income and a possible increase in health expenses due to a probable contagion by COVID-19. However, how can HEIs cope with a sustained payroll expense and a limited inflow of resources? For this reason, guaranteeing the security of economic resources and managing and optimizing available resources becomes the second step to be solved, in importance within the pyramid.

#### *Membership*

The need for affiliation is affected in COVID-19 by social distancing and remote education; society and families in Latin America are culturally happy and collaborative. However, under extraordinary pressure such as health effects, economic difficulties, coexistence in confinement, and little socialization. The Families begin to present, according to reports from The National School Board Association (2020), an unusual interaction caused by space limitations within homes, absences from school and work, interruptions in daily routines that increase violence within the home and deepen symptoms of anxiety in the student community (pp. 1-9).



### *Esteem*

At the top level are the transcendental needs. However, these remain in the background for a university population that must put their basic needs first and overcome basic communication challenges, obtaining materials for remote education, internet connection difficulties, and faces internal emotional, family, and economic difficulties. The needs on a larger scale, such as recognition for job performance, promotion, and incentives obtained by the good student and teacher performance, are generally overshadowed but latent in the heart of HEIs and the university population in Latin America.

### *Self-Realization*

Especially in times of crisis, the need to innovate and adapt to change arises, but it is not easy to accept an unexpected fact. Suddenly the university population and HEIs were affected by the COVID-19 outbreak. Especially public universities faced a reduction in funding, and private universities faced a reduction in tuition income. Latin American universities are characterized by using an already exercised resilience, which identifies this region hardened by a continuous journey through multiple difficulties. The region once again makes a heroic motivational effort to climb to the top rung in the pyramid of needs and try to make adequate decisions. Not without, of course, before meeting the level of basic needs.

### **The United States and HEIs From Maslow's Holistic Perspective**

Although it can be seen that in the United States, higher education institutions have emergency plans that contemplate risks due to the occurrence of sudden events, these plans have indeed been developed to be supported for short periods. An example of this is what happened due to climatic events such as hurricanes. Most higher educational institutions did not have contingency plans to be implemented and sustained over extended periods, as he did in the COVID-19 Pandemic.

In what happened in higher educational institutions in the United States and for the purposes of this essay, a global vision of the needs raised by Maslow will be considered in two sections: basic needs that include physiological, safety, and affiliation; and the needs of cusps, such as esteem and self-realization.

### *Basic Needs*

As in other parts of the world, HEI and the university population in the United States suffered emotional and physical safety. By perceiving a constant and latent possibility of contagion by COVID-19. A potentially fatal disease for students or people closes to them, such as family, friends, teachers, among others (APA, 2020, p.1). Despite this, the federal and local governments implemented stimulus packages to reduce income for both university institutions and teaching staff. Economic, housing, and food aids were also created for the student population (Mervis, 2020, p.3).

Regarding affiliation needs, restriction and confinement measures in the United States were more flexible than in Latin American countries. However, similar scenarios regarding family problems due to space limitations, change in daily routines, and social distancing was considered among the points to be attended to within the HEIs. Most HEIs were technologically prepared to advance to digital and remote education. However, distribution plans for paper materials were developed for low-income families, distant areas, and a limited level of internet access.

### *Peak Needs*

In the United States, the most affected levels were the levels of higher needs, esteem, and self-fulfillment. Degrees of trust at a personal level, trust in government and educational institutions were affected by the magnitude of the problem and the expected speed of response. According to The United States Census Bureau (2020), anxiety and depression grew exponentially in the United States during 2020. That is mainly due to concern about what the future might hold, the difficulty in achieving the goals set at the work level and student, uncertain management in time-lapses, and an accentuated denial or acceptance of the facts.

### **Proposal Oriented to University Institutions**

In developing strategies for distance learning, it is essential to define primary and secondary objectives. For HEIs, the primary objective must be effective communication between teachers and students, simply because “we are social beings in language” (Piñero, 2020).

Then we can consider other objectives such as developing digital skills and developing programs and content adapted to the media according to the reality of the environment. Also include didactic planning based on the traditional academic program, using didactic and evaluation resources. Implement the management of technological tools and platforms to be used. Without forgetting or leaving aside the formation of participation teams, such as academic directors and teachers; and, assign responsibilities in developing programs, software programming, platforms, and training in digital skills.

### **Latin America, a Proposal for HEIs in the Region**

For Latin America, the points to be addressed must be specific not to disperse resources and waste efforts. The account of HEIs in Latin America has limited resources, finite resources usually granted as a measure of financing by the region’s governments. Technological and training limitations in digital skills for teachers and administrative staff are also known in advance, for this reason, and considering the statistical data present in the graph prepared in the test, on the distribution of materials by most HEIs in the region’s countries. It is suggested to address the most critical points, which, when mitigated, would accrue an immediate return on the production and operation of higher educational institutions.

#### *Direct Teaching and Administrative Work to Telework*

Most Latin American countries maintain mobility restrictions and containment measures. In the best cases, the university institutions have carried out partial openings, mainly in the administrative area. For this reason, it is suggested as a first measure to direct efforts to telework. That reduces economic costs for institutions and benefits workers such as savings in travel time, reduced risk of contagion of COVID-19 comfort when teaching classes, or making arrangements electronically the automation of curricular programs, evaluation, and distribution of material remotely.

#### *Resource Management and Optimization*

As stated in principle, the resources of university educational institutions in Latin America are limited. The most vulnerable institutions are public universities by governments, as they have high rates of student dropout. It is suggested to make an inventory of resources, management, and optimization based on the capital: human capital, research capital, financial, technological, among others.

We know how difficult it has been for the region to update technological platforms and direct efforts to online education. For this reason, obtaining resources must be focused on the areas that facilitate a quick return on investment. To carry out the previously suggested agreements between private institutions, industry, research departments, and university laboratories, since these have an extraordinary resource of teachers and students dedicated for years to research in different areas such as operations research in the industrial area. During the COVID-19 outbreak, some universities with laboratories dedicated to surfactant and interface phenomena developed agreements with the oil, cleaning, and cosmetics industry; to obtain monetary funds that guarantee the operation of the institutions. Courses were also offered to international students that will generate extra resources and cover expenses and operating costs. That allows raising economic resources and making a long-term project sustainable that advances to digitization.

#### *Implement Evaluation and Control Schemes for the Teaching Methodology*

The tools and means available, such as disseminating channels on the radio and using free platforms to teach online classes. It is suggested to adapt as far as possible digital training for teaching staff. There are currently many free training platforms and teaching tools online. To mention one as an example, you can instruct on free platforms such as Google Classroom. It is also recommended to continuously evaluate and control the project objectives to guarantee its success. It is recommended to use surveys to collect the information and opinion of the university community.

## **The United States HEIs Proposals**

### *Define Project Objectives*

HEIs in the United States have greater economic capacity and capacity for action, as it is such a large territory subject to various state and federal laws. Each university must define its objectives and the scope of the project. It is suggested to define objectives through financial, technological, educational, training, infrastructure adaptation, etc. The implementation of technical platforms and the facilities' adaptation to comply with the rules of social distancing, sanitary, and health regulations. Prepare plans for training personnel in the digital area, teleworking, remote and online education. And develop a marketing and promotion plan for educational programs, both in social networks and in traditional media, to increase tuition as a primary income.

### *Identify Resources*

The resources available to these institutions come from various sources and agencies such as federal entities, banks, and in some cases, you can make use of the resources and loans processed through The Small Business Administration (SBA) who normally publishes guides to face the crises caused by natural disasters and offers financial guidance to process loans (SBA, 2020, pp. 1-52). Another agency that provides recovery in emergency scenarios is the Federal Emergency Management Agency (FEMA) (SBA, 2020).

### *Implementation, Monitoring, and Control*

After defining objectives and measuring risks, the next step will be to make a list of suppliers and allies. Outsourcing services to minimize project risks effectively achieve goals and facilitates monitoring and control quickly. The HEIs in the United States have sufficient resources to delegate critical areas to providers such as the implementation, management, and service of technology platforms, cloud maintenance, and the adaptation of study programs to the online system. Using CRM is also recommended for capturing and making effective the processed leads of the marketing campaigns in social networks to increase tuition fees. Finally, it is recommended to carry out periodic evaluations of form, request reports from service providers, and conduct surveys of students to determine the progress and quality of the service provided.

## **CONCLUSIONS**

The COVID-19 outbreak has impacted the lives of individuals, businesses, educational institutions, and governments. The population group most at risk is the elderly. However, their rhythm of work, student, psychological, and economic life was affected by their rhythm of work. As in daily life, a confusing and disorderly process was generated in the universities, a product of anxiety and the changes caused in teleworking, remote teaching, and the implementation of hygiene measures. This, together with pre-existing limitations characteristic of each region, demanded superior motivation, a lot of creativity, and innovation.

Universities in the United States, particularly in Florida, concentrated their main efforts on promoting digital platforms, allowing them to teach classes, perform evaluations, and maintain communication with students, professors, and administrative staff. Teleworking became very noticeable in the first months after the onset of the Pandemic. In September 2020, the reopening of the universities began, implementing mixed systems of face-to-face and online classes.

The economic resources were addressed to installing and maintaining technological systems, training personal teachers to teach virtual classrooms. Also, the efforts to sustain revenue were directed to marketing campaigns for new registrations. They were used in most cases of federal aid for both institutions and students.

In Latin America, isolation measures, stricter restrictions and confinement measures, communication difficulties, and technological deficiencies made it difficult to implement technological platforms for virtual teaching. However, the creativity, motivation, mystique, and vocation of the teaching and managerial staff were reflected in the search for alternatives within Latin American and Venezuelan universities; by using resources available in research laboratories and the knowledge of students and teachers. During the COVID-

19 crisis, proposals emerged, such as teaching courses in specific knowledge areas to students inside and outside the country. Research laboratories bridge with industry to develop pharmaceuticals, cleaning products, food processing, among others.

A point of special attention for governments and institutions was the psychological health of the academic community. The vulnerability of the student population, subjected in many countries to strict confinement measures, caused high levels of anxiety and depression in the university community; as well as the loss of interest, concentration, and creativity in academic activities and the increase in the use of narcotic substances and the excessive use of electronic equipment, videos, and social networks.

The difference between the student population has been affected by depressive symptoms in the United States, an average of 85%. And the student population affected with similar symptoms of anxiety in Latin America, an average of 46%. It makes a focal point developed in this essay, as is the hierarchy of needs.

The basic needs present in the student population of the United States, in general, are kept covered by their own means, family or state entities, and basic services and internet connection speed. However, higher levels of needs were affected by the COVID-19 outbreak in terms of esteem and self-actualization, causing high anxiety and concern for the future.

In contrast, in Latin America, the limited connection and speed of the internet, the limitations for implementing digital teaching platforms, training in digital skills of the teaching staff, and scarce economic resources are more than compensated with mysticism, vocation, and innovation. In this way, the universities saw the development of academic content and dissemination through digital media and outreach media such as television and radio to achieve learning, communication, and development of digital skills.

To end this essay, we want to underline the importance of the timely identification of needs, limitations, and risks in HEIs for Latin America and the United States. That leads to adequate decision-making, planning, implementation, execution, and control of the project presented to the HEIs in the region. It should be borne in mind the last objectives and scope of the project to increase income and minimize the risks of psychological health in the student population. The essay suggests prioritizing effective communication between teachers and students, developing digital skills, and didactic planning based on the traditional academic program. Define participation groups such as academic directors and teachers. Outsource services for the implementation of platforms and software programming. Accessible or free means are also used for training in digital skills. Distribution of paper material and various channels such as radio and television to reach students located in rural areas.

This essay intended to provide some guidelines so that those responsible for university institutions can implement some simple steps and face the crisis within HEIs due to COVID-19. Actions such as 1) define the objectives of the project; 2) develop a training strategy for administrative and teaching staff aimed at teleworking and distance education; 3) identify and manage resources; 4) implement a technology and marketing plan, and 5) carry out continuous monitoring and control to ensure compliance with the goals within the established deadlines.

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