

Covid-19, Impact on the various educational systems of Mexico in the 2019-2020 school year and distance education

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Abstract

Education has represented an important segment for the social development of various individuals who, thanks to this, obtain sufficient knowledge to better understand their environment and develop in an area where learning is a fundamental part of their growth. The arrival of a pandemic disease known as sars-cov-2 or covid-19, brought great consequences in the educational system of various countries including Mexico, causing an educational setback by not having the appropriate tools and knowledge to cope with such a situation; the research aims to show the impact that this pandemic has had on the different educational levels existing within the country. having a great setback in significant learning by students. Resulting in a deficient education system that has gradually developed methods and tools to teach classes in a safe and effective way.

Keywords: Covid- 19, Education, Pandemic, Students, Society.

1 Introduction

covid-19, is a virus that was known on December 26, 2019 in the Asian Chinese country in the city Wuhan, after a series of analyzes the health authorities of that country reported that it was a seventh class of coronavirus which infects humans so it was named as: sars-cov-2. According to Santos et. al. (2021). genetic studies show that this new virus belongs to the Coronaviridae family, in which the viruses of severe or severe acute respiratory syndrome (SARS-CoV) and Middle East respiratory syndrome (MERS-CoV) are found. Thus showing that it is a serious disease that can cause great affectations for the person who contracts it, so the level of affectation that such a virus has had has been significant affecting various social environments where people develop their lives in a normal and daily way. Due to the various effects presented by the disease, various measures were taken in various environments such as the economy, health and especially in education, restricting the way of acting in different environments causing a massive confinement to combat the

spread of the virus and thus reduce its mortality rate.

On March 14, 2020, the Secretary of Public Education (SEP) brought forward the Easter holiday period, extending it to one month, from March 23 to April 20 in all educational institutions throughout the country. The federal government decreed on March 24 the beginning of phase 2 of the COVID-19 pandemic in the country, after registering the first local infections (Suárez et al. 2020).

After the various events of infections during the first quarter of the year 2020, many countries were forced to take various measures to avoid a massive contagion which as mentioned suarez in Mexico was applied from March 24, where it isolates a large part of the population, suspending economic activities, non-essential activities but above all leave their home if this was not necessary, which affected the various educational levels since after the holiday period the government chose not to return to the classrooms to avoid a more accelerated spread of covid-19. Data presented by the National

Institute of Statistics and Geography of Mexico, mentions that 33.6 million people between the ages of 3 and 29 were enrolled in the 2019-2020 school year (62.0% of the total). Of these, 740 thousand (2.2%) did not complete the school year: 58.9% for some reason associated with COVID-19 and 8.9% due to lack of money or resources.

This shows one of the greatest effects that the disease has had, the setback in the learning of students of various educational levels by the measures applied to avoid contagions that may affect their health, as well as not having the methods or tools to be able to face this type of situation, despite the various technological advances and the use of online learning platforms, not all schools had them, so there were difficulties in their implementation to provide greater support to students.

Education is one of the essential formations of every individual, since through it both moral and affective values are obtained for a better development of the person as well as the obtaining of knowledge in various academic areas where they learn to develop various tasks and to have an appropriate behavior according to the environment where they are located. Leon (2007). He mentions that education presupposes a vision of the world and of life, a conception of mind, knowledge and a way of thinking; a conception of the future and a way of satisfying human needs.

The research developed is based on the effects that covid 19 has had on the educational levels of Mexico, affecting millions of students, causing various havoc at the educational level where their learning was interrupted both by the effects of the pandemic as well as by other areas that affect the educational continuity of several students.

2 Materials and Methods

The capture of the information presented in this investigation was collected through various official means that are both governmental and non-governmental institutions in which various studies have been made in accordance with what happened with covid-19, showing various repercussions that it has caused in the various educational levels being these one of the most affected sectors, causing a setback in the

learning of the student community. The methodology applied was developed based on a qualitative method which is based on its own reasoning through the observation of various aspects of educational development during covid-19, from the perspective of Lecanda & Garrido (2002). This method understands and develops concepts based on data patterns, and not collecting data to evaluate hypotheses or preconceived theories. While Guerrero (2016). It defines that it focuses on understanding and deepening the phenomena, analyzing them from the point of view of the participants in their environment and in relation to the aspects that surround them. In order to obtain the data presented in this research, a mixed methodology was used where one of the applied methods has already been mentioned, while the other method is the quantitative one with which after the application of tables the effects caused by sars-cov-2 in the educational levels of Mexico are known in a more adequate way, collecting data from the various statistical studies carried out by health entities, as well as government institutions such as INEGI. The quantitative method is defined by De Pelekais (2000). Which is to explain and predict and / or control phenomena through an approach of obtaining numerical data such as the tables and graphs presented obtained from surveys conducted within Mexico.

3 Results and Discussions

Education represents the foundations with which a society grows and is governed, where through various levels of learning the appropriate knowledge is obtained in which people can develop in order to apply them professionally as well as personally, showing all the knowledge imparted through the educational entities of the various academic levels existing in Mexico. Touriñan (2018) He mentions that education is courtesy, civility and civility; education is material and spiritual upbringing; education is perfection; education is formation. Educational systems have the purpose of making us have a significant learning to have a greater knowledge and know how to develop in a more appropriate way in the social and professional environment.

Societies need education to be able to grow and develop in an appropriate environment, this is

because through it the appropriate knowledge in values is imparted.

The table presented below shows the academic degree that Mexico has, show how many millions of students there are in each one and show the percentage it represents, giving data on the student community that are within the country being just over 54.2 million students enrolled in various educational instances where they acquire the adequate knowledge to have a meaningful learning.

Table 1. population aged 3 to 29 years in dwellings by level of schooling

Population aged 3 to 29 years		
HIGHER EDUCATION	13.1%	7.1 MILLION
UPPER SECONDARY EDUCATION	18.8%	10.2 MILLION
BASIC EDUCATION	59.8%	32.4 MILLION
NO SCHOOLING	8.3%	4.5 MILLION

Own elaboration. Source: INEGI. Survey for the Measurement of the Impact of COVID-19 on Education

The student population has been growing and developing in various social areas, this being one of its main purposes the behavior before society to improve its environment, denoting an adequate learning making individuals have a greater knowledge and can develop it in various sectors inside and outside society for an effective growth of it.

Degante et. al. (2015). It defines education from its own perspective giving a social understanding where it mentions that:

Education is essentially a social function, it is the foundation of the economic, scientific, technological and cultural development of a historically determined country. Through school, teaching is a trainer of knowledge and theories of science, of moral, social, human and aesthetic values, fundamental for human coexistence and peace.

Education represents an important pillar for the socioeconomic growth of countries, this is because the better it prepares a person is referring to having the appropriate knowledge, as well as an integrated morality where values endure, allows a better development before

society and especially before the professional environment where they will apply the various knowledge learned to develop in some activity or task where you show your level of learning.

Society has suffered in various aspects over the years this is due to various conflicts whether political, economic and in this case health, the latter being one of the most affected the socioeconomic environment of the country since the beginning of 2020 where it was that the spread of the virus reached Mexico taking as precautionary measures the confinement of the affected people to reduce their Spread, this virus was called as sars-cov-2 or equally mentioned as covid-19, referring to its scientific name and in the year where it began its spread that was in 2019 in a city of the Asian country China. The WHO mentions that coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Where mostpeople infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment. The government of Mexico mentions thatcoronaviruses are a family of viruses that cause diseases (from the common cold to more serious respiratory diseases) and circulate among humans and animals. In this case, it is SARS-COV2.

The emergence of COVID-19 and social distancing measures to preserve people's health and well-being, in addition to the obvious effects on public health, have had repercussions on employment, productivity, and possibilities for civic, social, and political participation. In education, the greatest impact has been the sudden transition from face-to-face to non-face-to-face teaching, mediated by technologies. (Sáenz & Cira, 2020).

The educational entities being places where the congregation of people is many, the necessary measures will be taken to avoid a greater spread of the virus, which led to the suspension of classes at all educational levels in both public and private schools, this led to a crisis in the learning of students for which there was a significant educational setback, since teachers did not have the appropriate tools to teach their classes remotely, which was proposed by the Secretary of Education and the government of Mexico to avoid a lag in education and with the help of technologies make use of virtual platforms for the teaching of classes.

ECLAC describes that a large part of the measures that the countries of the region have adopted in the face of the crisis are related to the suspension of face-to-face classes at all levels, which has given rise to three main fields of action: the deployment of distance learning modalities, through the use of a diversity of formats and platforms, the support and mobilization of personnel and educational communities, and attention to the health and well-being of students.

The measures taken to combat covid-19 were not so favorable for certain social sectors within the countries such as the case of education, not being prepared to face such a situation teachers and students did not know the methods with which they could teach and receive the various knowledge depending on the academic level in which they were, thus causing a school dropout which means the abandonment of their studies due to various factors but being the pandemic one of the main problems. Table 2 shows us the causes that led to the failure to conclude with their school year the 737 thousand students who ended their learning in an educational institution, whether public or private.

Table 2. registered population the 2019-2020 school year that did not end

Population aged 3 to 29 years		
COVID-19	58.9%	435 THOUSAND
ANOTHER REASON	25.5%	188 THOUSAND
FOR LACK OF MONEY/RECURSOS	8.9%	65 THOUSAND
WHY I HAD TO TRABAJAR	6.7%	49 THOUSAND

Own elaboration. Source: INEGI. Survey for the Measurement of the Impact of COVID-19 on Education

Table 2 shows that covid-19 has represented a significant percentage in student dropout, being more than 50% which leads to say that the lack of preparation and tools to take classes properly, caused problems within these students, so their abandonment is justified in a certain way as the educational systems are not prepared for a new teaching method where few institutions made use of technologies and platforms for greater reach in their meaningful learning.

The effects that the pandemic brought with it were significant within society by generating setbacks in various sectors which did not have the tools and the necessary preparation to be able to confront this situation therefore; there were various problems to which you had to give an efficient solution for the benefit of society, in the educational field, one of these solutions was the implementation of technological tools through the Tic's, which with the help of the appropriate technological tools and platforms helped to teach classes through these to reduce the educational lag that was being lived.

For Medel et. al. (2020). The pandemic caused by the so-called COVID-19 has placed us in a situation of unique opportunity to review the experiences we have had when trying to establish a national distance education system using communication technologies.

The OECD-Education International (2021), in its presented document showed the various ways in which countries faced the pandemic in the field of education making use of various tools and methods to continue with the learning process in it, in the case of Mexico;

he drew on his extensive experience in television education (Telesecundaria) to develop Aprende en Casa, an initiative based mainly on audiovisual content broadcast by a network of television stations and transmitted through Internet platforms. The contents were extended to all educational levels and were broadcast at specific times for each level, complemented by learning and assessment activities available online. Aprende en Casa also delivered 300,000 printed educational materials to students in rural and isolated communities without Internet access, and included a special strategy through radio to reach students in indigenous communities.

Distance education was one of the biggest challenges that the various educational sectors have faced, this because they did not have the necessary structure and material to be able to implement classes with the use of ICTs. Hernandez (2021). He mentions that Distance Education emerges as an alternative to the interest of expanding education and raising levels of instruction, highlighting those who cannot attend educational centers, and in the current context of the pandemic.

With the help of new technological platforms, the implementation of distance education has given positive results to combat the problems caused by the pandemic, distance education Amador B. R. (2020). It believes that it requires prior knowledge of the subjects and methods, strategies and pedagogical and didactic practices that parents do not know and are the competence of teachers.

the interference of ICTs in educational processes came to leave special relevance, because in every corner of the world it was intended to improve the quality of the teaching-learning process, in such a way that its application in the pedagogical field sought to optimize the results of an entire school system and at the same time, bring knowledge to particularly excluded populations. (Hernandez, 2021).

Tics have generated various tools and methods that facilitate the activities of people, and improve their processes and activities, this is because technology has had significant advances, a survey conducted by INEGI where its main study was to detect in which mobile devices took their classes this is shown in table 3, where through the applied survey it was determined which is the electronic tool or device used by the students.

Table 3. population with electronic devices the 2019-2020 school year for taking distance classes

Population aged 3 to 29 years	
SMART PHONE	65.7%
LAPTOP	18.2%
DESKTOP COMPUTER	7.2%
TELEVISION DIGITAL	5.3%
TABLET	3.6%

Own elaboration. Source: INEGI. Survey for the Measurement of the Impact of COVID-19 on Education

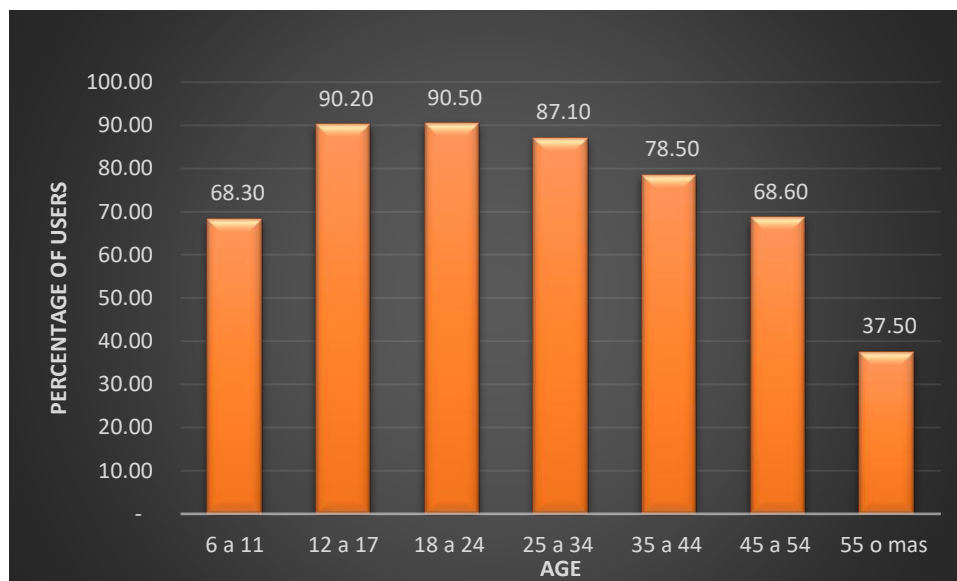
Table 3 shows one of the relevant aspects in the issue of access to education since this as a result of the new learning methods changed their perspective a little, since now they must have at least one electronic device in which they can receive their classes to be able to fulfill their duties as students, as all applications and digital media.

The smartphone proves to be the most used device, this is due to its practicality and a better adaptation of society, this is because through it you can do thousands of things, but above all maintain a more effective education.

Researchers who have compared Distance Education methods with traditional forms have concluded that Distance Education can be as effective as traditional forms of face-to-face education, when the appropriate methods and technologies are used, that is, when there is interaction between students and when they have timely feedback from the teacher (Manuel et. al. 2014).

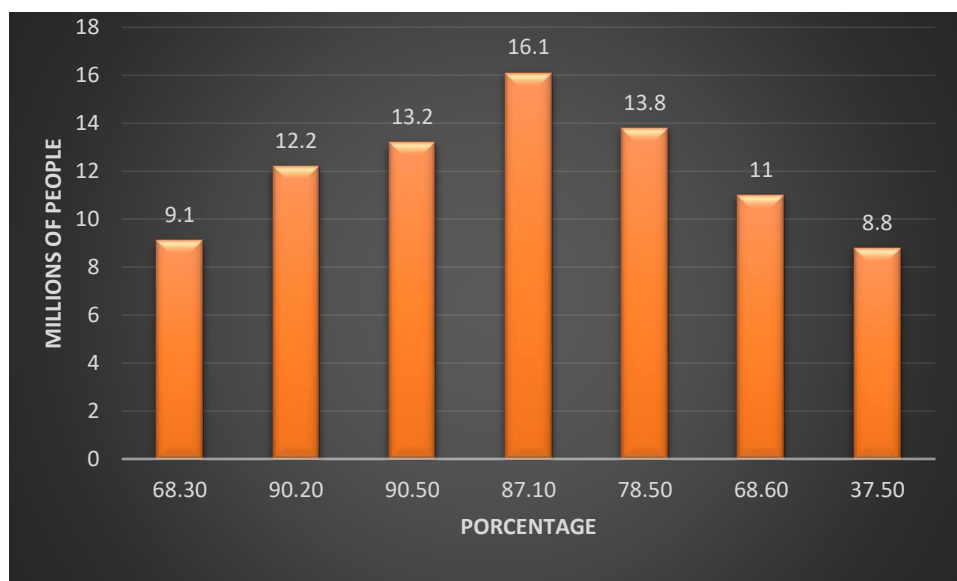
According to data from the survey, it is estimated that there are 84.1 million internet users aged six years or more captured by the ENDUTIH 2020, where it is present through its survey one of the most used means of communication as well as the most necessary during the pandemic, the graph presented shows the percentage in which the various sectors of society are divided according to their ages, but about the access you have over the internet.

Graph 1. - Distribution of internet users by age group, 2020, expressed as a percentage.



Source: INEGI. National Survey on Availability and Use of Information Technologies in Households (ENDUTIH) 2020

Graph 2. - Distribution of internet users by age group, 2020, expressed in millions of people



Source: INEGI. National Survey on Availability and Use of Information Technologies in Households (ENDUTIH) 2020

The graphs presented show how many people have access to the internet being the first graph which specifies the range of ages to which they belong expressed in percentages being the ages of between 18 to 24 years with 90.50 referring to the total population by age groups of the little more than 84 million people with access to the Internet 16.1 million being these the largest number of people between 25 and 34 years old who have the greatest access to the

internet as reflected in graph 2, where are the data taken by the ENDUTIH.

Despite the educational setback that COVID-19 brought, a large part of society managed to adapt, giving a better understanding to the use of technology and the use of the tools provided for an improvement in the educational system and to be able to have a more significant learning.

The internet was the main ally to be able to make an advance, with respect to new methods that are used through tics, to have a greater learning and avoid educational desertion. The present data and opinions of the various authors around education during covid-19 have demonstrated various problems caused by the virus, as well as tools and methods with which to combat an economic recession.

4 Conclusion

Education has had a setback considered because of the pandemic caused by this new virus sars-cov-2, which took various sectors of society by surprise because they did not have the necessary tools and especially the lack of preparation to face this type of situation, which complicated social progress, COVID-19 is one of the diseases that have caused great havoc worldwide, causing serious problems in health systems, but above all in an even more important aspect that is education since this is where people are trained, where they acquire the knowledge to develop as a person both ethically and morally as well as develop their intellect, through various means of learning to have a clear notion of the professional who wants to be, but above all how to contribute to society so that it has an adequate environment and has a growth full of learning.

The 2019-2020 school year was one of the most complicated cycles having to face a pandemic which was not prepared for it, the lack of tools that provided safe education and especially at a distance caused various complications to be able to adapt the various educational plans and that these were carried out efficiently, since as analyzed in the present study there was a great diversity of students who left academic life due to the consequences caused by the virus.

The application of tools and methods to combat the educational setback caused by this disease led to the implementation of various technological tools, which in some educational institutions were already used, an example of this are the famous virtual classrooms or digital platforms, where you could access through the internet through a computer or from the mobile phone and be able to take your class anywhere without the need to be inside a classroom, so they had to be implemented to a greater extent

so that schools had the opportunity to provide adequate knowledge through them.

In conclusion, education had a lag considered by the great student insertion caused by covid-19, as well as by other factors, but the virus being the main one, which frames the consequences that the virus brought where society had to be paralyzed to avoid a greater spread and reduce the mortality rate caused by it.

The research demonstrated the educational lag caused by COVID-19 and the great impact it had on the various academic levels as well as the students affected, showing through the tables and data presented the level of educational insertion that had during the first school year affected by the pandemic, due to the lack of preparation and tools with which to offer an efficient distance education through the various communication channels provided by the internet and the devices on which all this information is transmitted.

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