



Educational gap with virtual classes in Mexico during the Covid-19 pandemic.

Education gap with virtual learning in Mexico during Covid-19 pandemic.

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SUMMARY

The article "Educational gap with virtual classes in Mexico during the Covid-19 pandemic" analyzes the closure of schools worldwide due to the coronavirus pandemic, institutional virtual education projects at a global and local level, in universities in Mexico and Spain, the challenges for teachers in this stage of distance and hybrid education. Through an anthropological approach, the sociocultural situation of the school community in Mexico during distance learning is analyzed, which allows us to understand that the State's educational system must be strengthened to combat the educational gap, the educational lag and guarantee access to technologies for low-income students.

Keywords: Covid-19. Virtual education. Hybrid learning. Challenges. Institutional projects. Educational lag. Low-income students. Educational gap.



ABSTRACT

In "Education gap with virtual learning in Mexico during Covid-19 pandemic" we analyze the shutting down of schools around the world because of the coronavirus pandemic, the institutional projects of global and local virtual education, in universities of Mexico and Spain, and the teachers' challenges in this period of distance and blended learning. Through an anthropological approach we analyze the school community's sociocultural situation in Mexico during virtual education. Therefore, with this article we will understand that it is necessary to strength the state education system to battle education gap, educational lagging and ensure technology access to low-income students.

Key words: Covid-19. Virtual education. Blended learning. Challenges. Institutional projects. Educational lagging. Low-income students. Education gap.

In 2020, after the coronavirus pandemic, everyone talks about how important the internet is in contemporary society. In the United States, China, France or Mexico you can do a lot of activities without leaving home: remote work, purchases and distance sales, virtual relationships, virtual games, social networks, virtual reality or virtual education, among other activities.

The coronavirus has revealed that you can live in ultramodernity and perform all the necessary activities without leaving home. Children can receive virtual education and schools, due to the need not to teach face-to-face classes so as not to spread the coronavirus, have been forced to teach virtual classes. There are distance education programs that have been launched by UNESCO and UNICEF and in the case of Guadalajara, Jalisco, you can also use the virtual education initiatives launched by the SEP and the SEJ. However, in a country with great economic deprivation such as Mexico, is virtual education possible for the entire population during and after the pandemic caused by Covid-19? Or is this stage going to increase the socio-educational gap?

Schools closed worldwide due to the Covid-19 pandemic



To contain the Covid-19 pandemic, one of the most relevant global actions was to close all schools and specialists say that the paradigms of education will change. In April 2020, UNESCO noted that more than one billion students and young people around the world are affected by the closure of schools and universities due to the Covid-19 outbreak. Therefore, he presented the *Global Coalition for Covid-19 Education* that offers inclusive learning options. The members of this coalition are: UN agencies, the private sector, civil society, non-profit organizations, media partners, networks and associations. This project seeks: 1) to have the greatest number of actors and resources to provide an effective and unified response, 2) to coordinate measures to reach the most disadvantaged, 3) to reconcile national needs and global solutions to achieve effective and immediate solutions, and 4) to provide technological, free, safe and equitable solutions through radio, television and online digital tools for schools, students, teachers and parents (UNESCO, 2020a).

Universities globally will implement more distance learning from August, to prevent the spread of the pandemic. Silió points out that the Minister of Universities in Spain, Manuel Castells, believes that universities should improve distance learning, as part of a "bimodal system", in the face of a possible subsequent outbreak of Covid-19. In Spain, the return to face-to-face classes will be until September, by regions and in a staggered manner, so society must get used to a type of bimodal teaching, with an increase in digitalization (Silió, 2020). The school as an institution must improve, as stated by the Italian educational psychologist Francesco Tonnucci, who considers that the quarantine to prevent the spread of Covid-19 should be an opportunity to improve the school in different aspects, one of them, promoting the habit of reading (Ayuso, 2020). In this way, education, in general, will evolve and technologies will be used more. Therefore, Mexican students should benefit from technological knowledge and use it to receive an education of excellence, taking into account the poorest.

One of the great challenges in Mexico during this pandemic is to teach distance classes to more than 34 million students in Mexico because they represent almost 30% of the population. According to preliminary information from the SEP, through the Interactive System of Consultation of Educational Statistics, enrollment in the school year was 34'459,623 students. 25'253,306 pertenecen



to Basic Education, 5'144,673 to Upper Secondary Education (Preparatory), 3'813,616 to Higher Education (Bachelor's Degree) and 248,018 to a Postgraduate (United Nations Development Programme, 2020, pp. 44-45).

It is important to take into account that students have direct contact with their families, which explains that globally one of the first actions against Covid-19 was to close schools. To prevent contagion, students must receive classes from their homes so it is essential to have the necessary structures (technology, curriculum, work plans, materials, work of teachers and managers, etc.), without forgetting the low-income population that does not have access to technology.

For its part, UNESCO points out that the terms *open learning and distance education* refer to educational modalities that aim to expand access to education and training. All countries need to refine and renew teachers' curricula and knowledge in the use of new technologies, because this type of learning plays a decisive role in creating a global society. The internet has a radical effect on the transformation of education, because the most important distance programs allow to achieve the same number of graduates at a lower cost than traditional institutions, although they have the disadvantage that many communities do not have access to technologies. For these reasons, UNESCO continues to focus on the fundamental role of distance education in the diversification of education systems (UNESCO, 2002, pp. 10-14).

Institutional projects of virtual education at global and local level

After the coronavirus pandemic, in all countries there is talk of how important virtual education is because schools of different levels, in order not to spread the coronavirus, were forced to end face-to-face classes. In response to this situation, UNESCO launched the project "Education in Latin America and the Caribbean in the face of Covid-19" and it is divided into four sections: 1) "Monitoring the suspension of classes" is about information from all countries about the suspension of classes and when they plan to return to the classrooms. 2) "National Educational Responses" shows the options that each country has used to deliver a virtual education. 3) "Thematic Resources" is an effort of the Regional Working Group on Education for Latin America and the Caribbean in its response to the



Covid-19 crisis. 4) "Webinars" are virtual seminars (as of April 17, 2020) on: "Reopening and safe operation of schools", "Resources and platforms for the educational response to Covid-19", "Health at school: preparing for back to school", among other topics (UNESCO, 2020b).

For its part, UNICEF presented a guide on Covid-19 "What mothers, fathers, and educators should know" with information on how to prevent infections. UNICEF's perspective in its analysis of the effects of Covid-19 focuses on how it affects children and their families. Therefore, it addresses education from home, the role of mothers, the psychological environment, the mental health of children and adolescents, what fathers should know. In this regard, in April it launched an initiative to play and learn with children in times of Covid-19 entitled "#Aprendo at home", which are different activities to learn virtually (UNICEF, 2020).

The Ministry of Public Education (SEP) after the Covid-19 pandemic designed three initiatives to give continuity to the school year in Mexico during the months after the suspension of classes. The first initiative was "Learn at home" which consisted of providing classes through the internet and television on open channels. The second initiative was the "Distance Education Strategy: Transformation and Innovation for Mexico" which offered learning tools through *Google for Education* and *Youtube*. The last initiative was "Youth at Home" which focused on offering cognitive and emotional teaching content to upper secondary education (United Nations Development Programme, 2020, pp. 38). "Learn at home" is about educational materials to learn at a distance, through a website specialized in Basic Education and there is training in digital skills for teachers. In addition, public communication systems will transmit educational content and can be found at: www.sep.gob.mx; www.televisioneducativa.gob.mx; www.aprende.edu.mx and www.telesecundaria.sep.gob.mx (Government of Mexico, 2020).

Finally, the Jalisco Ministry of Education (SEJ) as part of the educational strategies to contain the Covid-19 pandemic and distance education began the "Digital Recrea" project that is a platform with information for virtual classes, on television and on the *Youtube* page, about didactic resources. "Recrea digital" is a platform that allows school procedures so that teachers and students can send and receive information (Jalisco Education, 2020).



Internet access in Mexico and its influence on virtual education

Distance education is not the only solution, but due to the great risk of contagion represented by Covid-19 it is the safest alternative. In the General Education Law, article 84 states that Basic Education must be taught focused on technologies and digital learning, so one of the challenges next school year is to use technologies for the teaching of distance classes, taking into account the curriculum, work plans and materials (General Education Law, 2019). However, it should not be forgotten that in order to provide inclusive and equitable education, the population that does not have a computer or internet at home must be taken into account.

In this regard, Rodolfo Ramírez points out that, in 2015, in Mexico the National Survey on Availability and Use of Information Technologies in Homes (ENDUTIH) was carried out, which showed that, in the population aged 6 to 34 years, 73.6% have access to the use of the Internet through different devices. On the other hand, in households 39.2% had a computer with an internet connection (Ramírez, 2016).

In the report "Human development and Covid-19 in Mexico: challenges for a sustainable recovery" a graph appears on the percentage of households with a computer and internet connection by socioeconomic stratum, based on data from INEGI (ENDUTIH) in 2019. The percentages of the internet connection are: low stratum (16.4%), lower middle stratum (40.2%), upper middle stratum (62%) and high stratum (79%). This graph shows the great problem that low-income families have to access virtual education, because while statistics indicate that about 56% of families in Mexico have internet, they do not account for the great difference that exists between the low and high strata (United Nations Development Program, 2020, pp. 39).

This situation means that in Mexico many low-income students, from rural and indigenous communities, do not have the conditions to follow classes or deliver homework, which affects young people disproportionately. This digital divide is also observed in the teaching staff because a considerable percentage does not have training for the use of technologies in pedagogical processes or the didactic materials that correspond to virtual teaching, so the SEP launched the platform



"Teachers at Home" so that they can be trained (United Nations Development Program, 2020, pp. 40).

The SEP points out that it is still too early to evaluate the effects that Covid-19 will have on learning (of students) and on school dropout rates. However, it is expected that it will have a significant impact on the continuity of students' studies. According to SEP estimates, at least 800,000 students currently in their third year of high school will interrupt their upper secondary (high school) education. It is estimated that the next school year there will be no school dropout at the basic level in Mexico (preschool, primary and secondary). However, 15.55% of students will not continue their studies in high school and there will also be a notable reduction in university students (United Nations Development Programme, 2020, pp. 42-45).

Therefore, the authorities in Mexico, to talk about virtual basic education, must answer how will distance education be provided to the population that does not have access to the internet? or even more importantly, how will distance education be provided to the population of low socioeconomic stratum that has almost no internet (16.4%)? It is necessary to strengthen the education system to close the digital divide and guarantee access to education technologies not only in schools, but also to generate policies so that low-income students can have free access to the internet and devices that allow them to continue with distance education.

Distance education projects in universities in Mexico and Spain

An aspect that is sometimes complicated is to put theory into practice so, in the case of distance education, the project carried out in Mexico by the Autonomous Metropolitan University (UAM) during the months of May to June is illustrative. Dr. Eduardo Peñalosa Castro, Rector General of the UAM presented this situation in his conference: "Role of technologies in higher education in the new normal: a proposal" (July 16, 2020). Peñalosa showed the proposal of virtual education of the UAM: 1) there must be a dialogue between teachers and students, 2) the teacher can resort to a variety of teaching strategies, 3) the student can learn autonomy, thinking and argumentation skills, 4) teachers and students have a better time management, 5) the didactic materials can be reused for later classes,



6) educational design can have better control, 7) there are synchronous interactions (videoconferencing platforms such as *Zoom* or *Google Meet*) and diachronic (emails) and 8) students can reflect on the use of the internet and learn to express themselves through technologies.

The goal was to offer quality education during the pandemic and one of the educational strategies was that students could take any class at the time they wanted. In addition, it was important for the university to take into account the contingency caused by the coronavirus, be flexible with students and help them in the use of technologies. Thus, after analyzing the economic situation of the students, the UAM decided to offer support to the vulnerable student community and 13% of the students (4,633 people) received *tablets* with *chips* with internet (Peñalosa, 2020). Therefore, this experience allowed the UAM to value the virtual education experience, to know the conditions of the student community (not everyone has access to a computer with internet) and to realize the need to distribute devices with internet for low-income students.

On the other hand, the University of Guadalajara (UdeG) presented the Computer Loan Program "Desde Casa" as an option for high school and undergraduate students, of the Higher Secondary Education System, Virtual UDG, thematic and regional University Centers of the University Network, who do not have a device or computer, to take their classes online and can successfully conclude the 2020A semester. In order to participate, you must consult the institutional directory and contact the university centers to know the procedures. In the case of high school students, they have to register their application at their school, go to the campus with their mother, father or guardian, carry the evidentiary documents and the loan of the equipment will be for a maximum of two days (Desde Casa, 2020).

The rector general of the UdeG, Ricardo Villanueva Lomelí, reported that 32% of the students of this house of studies do not have a computer, so the "Desde Casa" program was launched with an infrastructure of 500 *laptops* and 1000 laptops to lend to students, from high schools and university centers, of low resources that do not have equipment so they can continue studying from their homes. In this way, it is intended to combat educational backwardness and generate equal conditions for students (Vázquez, 2020).



In the case of the Autonomous University of Madrid (UAM), due to the educational infrastructure of Spain, there was already a computer loan program for students. However, due to the coronavirus contingency, on June 10, 2020 it was updated to have a total of 295 laptops for student work in and out of college. This equipment is intended for academic use only. This is a one-day loan and cannot be booked or renewed. The computers have installed some computer programs licensed for use at the university and allow connection to the wireless network of the UAM (Loan of laptops, 2020). In this way, the importance of schools and universities in Mexico and abroad having computer loan programs for low-income students can be observed, which will allow to impart an equitable virtual education.

Challenges for teachers in distance education

Tomás Andújar Palma in "The digital training of teachers, the challenge of education that comes" points out that an attempt has been made to transfer the face-to-face classroom to the virtual classroom in the best possible way, but there is a part of the teachers who have problems because they were not prepared or had the skills to do so. In addition, there are some educational centers that were better prepared and had a technology management project involving families. Therefore, teachers must be trained in the use of technologies and learning in the digital field to be able to teach in the best way (Andújar, 2020).

Jimena Campuzano in "Teachers in quarantine: challenges of education and online classes" affirms that the coronavirus has led students, parents and teachers to learn, because it is necessary to delve into the use of technologies to transfer knowledge from face-to-face classrooms to virtual classrooms. Without training from the authorities, teachers have looked for the best way to learn how to use educational apps and platforms. For their part, teachers recognize that this school year has not been easy because moving from face-to-face to virtual education was a drastic change. On the subject of education, it is necessary to seek that the activities are adequate for students, depending on the educational level, to carry them out with their parents. In addition, distance learning does not allow teachers to know if the expected learning is really consolidated because there is little interaction.



During distance education caused by the coronavirus, teachers have had many different challenges such as becoming familiar with educational platforms, adapting their contents so that students continue to learn and motivating them in this time of pandemic (Campuzano, 2020).

Due to the contingency due to the coronavirus, the Ministry of Public Education (SEP) launched the platform "Teachers at Home" so that they can be trained in virtual education. This platform makes available to teachers (baccalaureate level) a series of resources to continue teaching from home and train through courses. There, there is a diversity of didactic resources (videos, teaching library, tools, *onlineresources*, etc.) according to the expected learning and specific contents of the second, fourth and sixth semester study programs. This information can be used to design teaching and learning strategies according to both students and the circumstances caused by the coronavirus (Teachers at Home, 2020). Therefore, teachers in Mexico must look for ways to train in the use of technologies and use educational platforms to deliver distance education that motivates students.

Hybrid education in the 2020-2021 school year?

Since the coronavirus pandemic began, the date of the return to face-to-face classes has been changed several times in Mexico, although an important aspect is that not all States are in the same situation. For example, in the State of Jalisco (with Guadalajara the second largest city in the country) and nine other States, since March 17 classes were suspended due to Covid-19, several weeks ahead of the national plan, which caused some confusion at the beginning of the pandemic (*Political Expansion, 2020*).

In Jalisco at first it was thought that after two months there would be a return to schools. Then, the authorities indicated that in September the school year would begin normally. Subsequently, it was noted that in November. Finally, at the beginning of December 2020, the governor of the State of Jalisco, Enrique Alfaro, said that if in terms of health there are conditions, students could return to face-to-face classes on January 25, 2021. However, face-to-face classes are optional and if some parents do not feel safe they are not required to send them. This situation shows that, given the uncertainty about the duration of the pandemic, there is no plan in the State of Jalisco on how to



return to face-to-face classes. Alfaro explained that during the contingency due to the coronavirus, 49 active teachers have died in Jalisco, so even without attending face-to-face classes they live in a risky environment. For him, face-to-face classes cannot be replaced by a computer or the internet and the contact between teachers and students is part of emotional health and the learning process (Ramírez, 2020). However, in a situation as serious as the one that is being experienced worldwide with Covid-19, it is important to highlight that low-income families are the ones who will be most affected because in many cases they have lost their jobs, have fallen ill with the coronavirus and have not been able to follow the process of virtual classes.

On the other hand, after talking with the families of the students or the staff who work in Basic Education, it can be known that a considerable percentage believe that it is best to finish the school year virtually (as has been done since August) due to the risk posed by the contagion of the coronavirus and that it can affect especially the poorest and most vulnerable population. In addition, worldwide there is a new wave of infections due to the winter season.

One aspect that stands out in this plan of the Governor of Jalisco to return to face-to-face classes at the end of January 2021 is that at no time has he mentioned anything about hybrid education or a coordinated hybrid education plan at the state level, which would allow to return step by step to face-to-face classes. *Blended Learning* is known as hybrid or blended learning and began to be used a decade ago. It is not only about using new educational technologies and combining virtual classes with face-to-face classes, but also about giving each student a personalized experience. For this reason, in the return to classes, digital tools should be added to face-to-face education in public and private schools and allow students to choose their study schedules. In addition, it is necessary to adapt the curricula taking into account face-to-face and virtual education (Servín, 2020).

Hybrid learning makes it possible to integrate the technological advances of virtual learning with the interaction of face-to-face classes, as indicated by François Bédard, Patrick Pelletier and Christiane Le Clech in "L'apprentissage hybride". Hybrid learning allows the teacher to experience a student-centered approach and their learning preferences, thus offering more flexibility to students who must combine studies-work-family (Bédard, Pelletier and Le Clech, 2020).



For his part, on July 22, 2020, that is, four months earlier, Esteban Moctezuma Barragán, Secretary of Public Education in Mexico, led the XLIX Virtual Ordinary Meeting of the National Council of Educational Authorities (CONAEDU) where he expressed that the pedagogical approach that will exist in the future will be hybrid: with virtual and face-to-face education, according to the needs of each state educational system. Likewise, to guarantee the well-being of the school community, face-to-face classes will only be held if the epidemiological traffic light is green and depending on the evolution of the pandemic in each State of the country (Ministry of Public Education, 2020).

This situation shows that the governor of Jalisco is not following the instructions of the national educational authorities because the epidemiological traffic light in the State of Jalisco is orange. In addition, the best way to return to the classroom is through hybrid learning coordinated at the state level, because otherwise students will be infected in schools, causing a serious health problem, which would lead to a serious problem in public education such as the one that is being experienced in schools in the United States (Navarro, 2020).

Conclusions

Mexico needs to be prepared to face the coronavirus pandemic, so in Education in Mexico the strategies for the teaching of distance classes have to be systematized, taking up the projects of UNESCO, UNICEF and SEP. Education around the world will evolve, so in Mexico work plans and study programs must be adapted to compete with international standards. The use of new technologies is very important, but it is necessary to take into account the socioeconomic context of families to include, in the virtual educational project, students who do not have access to a computer with internet, otherwise the educational lag will be increasingly large.

One of the great challenges in Mexico during this pandemic is to teach distance classes to more than 34 million students in Mexico because they represent almost 30% of the population. The safest way to return to in-person classes is through coordinated hybrid learning at the national and state levels. Likewise, the education system must be strengthened so that the socio-educational gap does



not grow and guarantee access to education technologies not only in schools but also in the homes of low-income students.

Therefore, it is necessary that, in Mexico, in schools from basic to higher education, there are computer loan programs. As has been shown, only 16.4% of families belonging to a low socioeconomic stratum have an internet connection, so providing free access to internet devices to low-income students will allow equitable virtual education to be provided. To reduce inequalities and offer inclusive education, concrete actions must be generated to guarantee education in excluded populations, as well as training for teachers so that they can provide distance education that motivates students in these times of pandemic.

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