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Artículos científicos

Valoraciones de universitarios mexicanos sobre la educación a distancia en el confinamiento (2020-2021)

Mexican University Students' Evaluations of Distance Education in Confinement (2020-2021)

Avaliações de estudantes universitários mexicanos sobre educação a distância em confinamento (2020-2021)

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Resumen

En la educación remota por efectos del confinamiento por la covid-19 resulta fundamental considerar las experiencias de los estudiantes sobre los cambios suscitados en comparación con la educación presencial. El objetivo de la investigación fue realizar un análisis comparativo de las valoraciones de los estudiantes de la Facultad de Pedagogía de la Universidad Veracruzana, zona Poza Rica-Tuxpan, sobre la incorporación a la virtualidad durante dos momentos de la pandemia: primer período (marzo-agosto de 2020) y segundo período (febrero-julio 2021), a fin de identificar cambios o continuidades. La investigación tuvo un enfoque cualitativo y método hermenéutico. Se interpretaron los reportes de 28 estudiantes: el grupo 1, conformado por 14 estudiantes cursantes entre marzo y agosto de 2020, y el grupo 2, con 14 estudiantes de los cursos de febrero a julio de 2021. Se aplicó una guía de entrevista semiestructurada de 10 preguntas abiertas vía Zoom. Se utilizó la técnica de análisis de contenido, y se identificaron tres categorías temáticas: “Presencialidad vs educación a distancia”, “Experiencia en la educación en línea” y “Condiciones socioemocionales derivadas de la virtualidad”. Los resultados muestran valoraciones similares entre los dos grupos, tales como una preferencia por la presencialidad, limitaciones



tecnológicas y económicas y carga de estrés producto de la educación en confinamiento. Sin embargo, se observan cambios en ciertas tendencias, tales como la incorporación más efectiva a las plataformas virtuales educativas y mayor valoración positiva de la educación a distancia en el segundo grupo. Las condiciones emocionales también son distintas. En el primer grupo destaca el estrés por la enfermedad y en el segundo grupo la situación económica. En el desarrollo futuro de la educación a distancia es fundamental comprender los cambios suscitados en los distintos momentos de la pandemia, ya que determinan valoraciones distintas de los estudiantes hacia las estrategias didácticas implementadas y su repercusiones en el aprendizaje.

Palabras clave: covid-19, educación, virtualidad.

Abstract

In remote education due to the effects of covid-19, it is essential to consider the students' experiences about the changes that have occurred in comparison with face-to-face education. The objective of the research was to carry out a comparative analysis of the evaluations of the students of the Faculty of Pedagogy of the Universidad Veracruzana, Poza Rica-Tuxpan area, on the incorporation to virtuality during two moments of the pandemic: first period (March-August 2020) and second period (February-July 2021), in order to identify changes or continuities. The research had a qualitative approach and hermeneutic method. The reports of 28 students were interpreted: group 1, made up of 14 students studying between March and August 2020, and group 2, with 14 students from February to July 2021. A semi-structured interview guide of 10 open-ended questions was applied via Zoom. The content analysis technique was used, and three thematic categories were identified: "Presentiality vs. distance education", "Experience in online education" and "Socioemotional conditions derived from virtuality". The results show similar evaluations between the two groups, such as a preference for face-to-face, technological and economic limitations and the stress load resulting from confined education. However, changes in certain trends are observed, such as a more effective incorporation of virtual educational platforms and a higher positive evaluation of distance education in the second group. Emotional conditions are also different. In the first group, stress due to illness stands out, and in the second group, the economic situation. In the future development of distance education, it is essential to understand the changes that occurred at the different moments of the pandemic, since they determine

different evaluations of the students towards the didactic strategies implemented and their repercussions on learning.

Keywords: COVID-19, education, virtuality.

Resumo

No ensino a distância devido aos efeitos do confinamento devido à covid-19, é fundamental considerar as experiências dos alunos sobre as mudanças trazidas em comparação com o ensino presencial. O objetivo da pesquisa foi realizar uma análise comparativa das avaliações dos alunos da Faculdade de Pedagogia da Universidade Veracruzana, zona Poza Rica-Tuxpan, sobre a incorporação à virtualidade durante dois momentos da pandemia: primeiro período (março - agosto de 2020) e segundo período (fevereiro-julho de 2021), a fim de identificar mudanças ou continuidades. A pesquisa teve abordagem qualitativa e método hermenêutico. Foram interpretados os relatos de 28 alunos: grupo 1, composto por 14 alunos cursando entre março e agosto de 2020, e grupo 2, com 14 alunos cursando de fevereiro a julho de 2021. Um roteiro de entrevista semiestruturado de 10 questões abertas via Ampliação. Utilizou-se a técnica de análise de conteúdo, sendo identificadas três categorias temáticas: "Presença versus educação a distância", "Experiência em educação online" e "Condições socioemocionais derivadas da virtualidade". Os resultados mostram avaliações semelhantes entre os dois grupos, como preferência por atendimento, limitações tecnológicas e econômicas e carga de estresse decorrente da educação em confinamento. No entanto, observam-se mudanças em algumas tendências, como a incorporação mais efetiva das plataformas educacionais virtuais e uma maior avaliação positiva da educação a distância no segundo grupo. As condições emocionais também são diferentes. O estresse por doença se destaca no primeiro grupo e a situação econômica no segundo grupo. No desenvolvimento futuro da educação a distância, é fundamental compreender as mudanças ocorridas em diferentes momentos da pandemia, pois determinam diferentes avaliações dos alunos em relação às estratégias didáticas implementadas e suas repercussões na aprendizagem.

Palavras-chave: covid-19, educação, virtualidade.

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Introduction

The outbreak of the 2019 coronavirus disease (covid-19) generated drastic changes in people's daily lives, and the education sector was possibly one of the most affected by the implementation of urgent biosafety measures. Education moved from the classroom to the home of students and teachers. Both of them were introduced to the digital world quickly and with little capacity for action (Plá, 2020), since this change required an arduous process of appropriation and re-learning of information and communication technologies (ICT) for educational purposes (Deslandes and Coutinho, 2020; Reynosa, Rivera, Rodríguez and Bravo, 2020). Indeed, teachers were not prepared to take on these challenges urgently (Severino, Petrovich, Mercanti-Anthony, and Fischer, 2021; Valverde, Fernández, Revuelta, and Sosa, 2021), since training in strategies for virtual education at start of the pandemic was still incipient (Nuere, 2019). The situation described undoubtedly had repercussions on the quality and conditions of the teaching processes mediated by technology and, consequently, generated negative evaluations from students about learning in the new virtual context (Pérez, Vázquez and Cambero, 2020), as well as a decline in academic performance (Pohtam, Deka, & Dutta, 2021).

There is no doubt that ICTs have come to generate substantial changes in traditional teaching strategies for several years. By the way, here didactic strategies are understood as the decisions made by the teacher in the orientation of the learning processes (Anijovich and Mora, 2009). It is also necessary to highlight that the choice of suitable strategies entails not only considering content for learning, but also proposing constructive, creative, experiential activities based on flexible dynamics. (Londoño y Calvache, 2010).

It is true that one of the imperatives as teachers is to help achieve significant learning in students through the appropriate strategies; however, the conditions imposed in the context of the pandemic have required teachers to rethink the way and means through which students learn. Indeed, technology currently plays an essential role in education, when only a couple of years ago it was observed from "outside" or from the "barrier", possibly with the intention of not using it or doing so in a limited way. For this reason, the incorporation of ICT is not only a means of support in the distance education process, but above all a challenge for both teachers and students (Barrón, 2020). In the case of teachers, in addition to the development of digital skills, a detailed advance planning of activities, exercises and digital tasks must be carried out, which must be effectively fed back (Martínez and Melo, 2018). For this reason,

the adoption of technologies was a slow process in the different higher education institutions, especially in Latin American countries.

In the case of students, the difficulties are not only palpable in the incorporation of technologies, often determined by inequalities in accessing them (Huamán, Torres, Amancio and Sánchez, 2021), but the traditional dynamics of life Academic learning is particularly affected since it implies the passage or transition from face-to-face classes to autonomous learning that entails greater responsibility in the learning processes, adapted to new teaching strategies developed by the teacher (Pérez et al., 2020). . This remote modality mediated by the virtual also establishes a coexistence between the domestic, the work and the educational, with all the implications that this generates, in such a way that academic, technological and psychological demands are raised due to the fact that the educational process is not only reduced to the academic campus, but transcends it to other spaces (Rosario, González, Cruz y Rodríguez, 2020).

As is known, ICTs play a fundamental role in distance education; however, the process of immersion and adaptation to these is not easy. For several years, Mexican higher education institutions have been oriented to progressively incorporate virtual education as a means that enables dynamism, interactivity and cooperative learning in university education (Rivera, Viera and Pulgarón, 2010); however, these efforts were predominantly aimed at digitizing the information heritage, and not at promoting digital skills to develop academic activities through platforms such as Moodle (Zempoalteca, Barragán, González, and Guzmán, 2017). It should be noted that this process was also characterized by resistance to change on the part of teachers and students and by not having sufficient support from universities to promote virtual environments among users (Sorroza, Jinez, Rodríguez, Caraguay and Sotomayor , 2018). In this state of things, when the pandemic began, there was an urgent need to incorporate technologies into distance education, without sufficient preparation on the part of the different educational actors.

At that time, the level of technological updating existing in each institution to deal with the contingency became evident, as well as the training of teachers in the use of digital resources as educational strategies. However, as has been reported in studies carried out at different educational levels in Latin America, at the beginning of the pandemic most teachers were not prepared to develop their teaching strategies with the use of technology, not to mention the lack of skill to use social networks as teaching tools (Álvarez, Martínez and Urrea, 2021; García de Paz and Santana, 2021; Valverde et al., 2021; Villafuerte, Bello,

Pantaleón and Bermello, 2021). In addition to the lack of training in these processes, both teachers and students have also been reported problems with connectivity and access to computer equipment (Huamán et al., 2021; García, Rivero and Ricis 2020), which has made even more The integration of technologies with educational processes was complicated, especially in the first period of the pandemic, which limited access and dissemination of the different resources available to universities.

In these circumstances, in the context of confinement due to covid-19, the Universidad Veracruzana relied on the Eminus platform. It is a friendly technological system for the teaching-learning process (Universidad Veracruzana, s. f.). Before the start of the pandemic, it was a technological tool little exploited by teachers and students, but given the circumstances it was immediately adopted and used as a mediator in teaching strategies. Services such as Zoom or Telmex Videoconference were also used with a view to setting up a synchronous meeting, since both services provide the opportunity to connect in real time through a computer or cell phone. But WhatsApp has been the tool that has been used the most to establish communication during education in a pandemic. In fact, WhatsApp, Meet and Zoom have been the virtual platforms most used by students in general to access their classes in this context of distance education (Fusté, 2021).

Undoubtedly, the Universidad Veracruzana was not an exception in terms of unexpected events in the adoption of the virtual modality, since it was necessary to develop the courses remotely under an educational platform or some social network chosen by the teacher to conclude the school year. , which aroused in the students certain experiences that must be analyzed. In this sense, it is necessary to take into account that the process of adaptation to the virtual modality has not been homogeneous throughout the period of confinement. For this reason, in the present investigation two stages were identified in the process of involving students in virtuality: a stage that has been called "First period of the pandemic", which refers to the period between March and August 2020, in which there was an abrupt transition to virtual education with a forced adaptation of all the actors in the educational process (Mastella, 2020; Rujas and Feito, 2021), and a second stage that involves overcoming the initial difficulties to incorporate with greater fluidity of educational technologies, called "Second period of the pandemic", characterized by a process of adaptation and future reflection on the use of distance educational strategies in virtual mode (De Giusti, 2021), which is not exempt from problematizations. This period is considered in this research as the stage spent at the university between February and July 2021.

That said, in this study the following questions were raised: what have been the evaluations of the students of the Faculty of Pedagogy of the Veracruzana University on the transition to virtual education and the strategies applied by teachers in the context of virtual education? pandemic? And can changes be identified in the assessments reported by students during the first period of the pandemic (January-August, 2020) and the second period of the pandemic (February-July 2021)?

Research objective

The objective of the study was to carry out a comparative analysis of the evaluations of the students of the Faculty of Pedagogy on the migration towards virtuality during two moments of the pandemic, identified as "First period of the pandemic" (March and August 2020). and "Second period of the pandemic" (February and July 2021), in order to identify changes, adaptations or continuities.

Materials and method

To achieve the stated objective, it was decided to approach the subject from the qualitative approach. This approach is a paradigm that gives relevance to interpretation and meaning instead of reducing information to numerical or statistical comparisons (Martínez, 2011). The main characteristic of qualitative research is the interest in capturing social reality as it manifests itself, giving priority to experience and subjectivity based on the discourses of the participants in their own social context.

Among the different methods that make up qualitative research, in this study the hermeneutic method was chosen, which is based on the interpretive nature of discourse and considers that social and individual constructions are likely to be addressed through interactions between the researcher and the participant (Denzin, 2000), which makes it possible to adequately address the assessments and expectations of students at different moments of the pandemic, since these are lived subjective and personal constructions that deserve to be interpreted in order to later give them an objective sense through categories.

Participants

The participants are regular students of the courses taught by the author of this research at the Faculty of Pedagogy of the Universidad Veracruzana, for which it was possible to request their support for the study. According to the purposes of the research, there are two groups of participants. Group 1 is made up of 14 students selected from a population of 186 students who were in their 2nd, 4th and 6th semesters at the University during the month of July 2020. Group 2 is made up of 14 participants selected from a population of 170 students belonging to the same semesters, all of them regular students, during the month of July 2021. All participants were selected through an intentional-purposive sampling (Mendieta, 2015), which is characteristic of qualitative research. The selection criterion was having presented the previous questionnaire applied to the entire population, frequently using some technological means, being a regular attendee of one of the courses taught by the researcher, willingness to participate in interviews via Zoom and maintaining contact with the investigator for further interviews.

Instruments

Two instruments were applied. For the entire population in each group, a diagnostic questionnaire was applied via Google Forms, which consisted of 30 closed questions, which investigated the relationship of students with virtual tools and platforms and their experiences in the confinement process. The need to deepen the answers on the subjective evaluations of the students was evidenced and for this reason it was decided to select a small group of participants to apply a second instrument.

The second instrument consisted of a semi-structured interview conducted through a protocol of 10 open questions, which was designed for this research, after validation by experts. The instrument inquired about the experiences of students in relation to education in the context of the pandemic, considering the following questions:

- 1) Do you have internet at home? What devices do you have to carry the virtual activities of your classes at the university?
- 2) What is the platform or application through which you connect to carry out your academic activities?
- 3) Do you know the Eminus platform used by the university?

- 4) From your point of view, what do you think it was like to work on the Eminus platform?
- 5) According to your experience in this quarantine, do you consider online education viable? Why?
- 6) In which educational modality do you feel better, through online classes or in face-to-face classes at the university? Why?
- 7) What are the advantages of face-to-face classes?
- 8) Can you mention the limitations you have had to access your online classes?
- 9) Can you mention positive or favorable aspects of receiving classes online or remotely?
- 10) What have been your personal and emotional experiences during confinement?

Following the approaches of Martínez (2011), qualitative instruments do not require establishing reliability and validity indices, since they do not operate with statistical criteria that require it. However, in order to guarantee obtaining a valid instrument, given that it is an interview guide designed for research, content validity was sought through the judgment of three experts, all professors at the Universidad Veracruzana, who made the respective evaluation on a rubric in which they indicated the rating of the following criteria for each item: a) Relevance, b) Coherence, c) Writing, d) Relevance. Once the rubrics were collected, the suggested modifications were made and the respective approval of the experts was obtained.

Process

In the first moment of the investigation, a structured questionnaire of 30 closed questions was applied to 186 students in July 2020 and 170 students in the July 2021 courses. From the answers to the questionnaire, the groups of participants were selected to carry out qualitative research, through an interview via Zoom. The same protocol (closed questionnaire and qualitative interview) was maintained for both groups. The interviews were conducted and recorded using the Zoom tool and later transcribed, from which the textual corpus was obtained for the subsequent analysis of results.

Results analysis technique

The technique used is content analysis. According to Cáceres (2003), this technique has undergone a transition from a quantitative to a qualitative orientation. In this sense, from its conceptualization, content analysis provides greater interpretive richness to discourses, without neglecting the quantitative basis, which is given by the organization of responses in absolute frequencies to define the categories of analysis. The analysis is proposed in a series of sequences, which have been synthesized for the purposes of the investigation in accordance with the approaches of Cáceres (2003) and MacQueen, McLellan, Kay and Milstein (1998) as follows:

- Coding: identification of response frequencies in the discourse and assignment of codes for classes of repeated responses.
- Organization: integration of codes into broad semantic units of analysis.
- Identification of relationships: establish possible inductive categories and their relationship with the units of analysis.
- Interpretation: proceed to the hermeneutic process of the categories identified in the speeches.

The answers were transcribed and organized in independent databases, which were identified as group 1-2020 and group 2-2021. Similarly, the information was coded in two separate databases, corresponding to each period. Subsequently, the subtopics were identified and the corresponding interpretations were made for each period. Once the information was organized, the results of each period were triangulated in order to make the pertinent comparisons and identify the changes or continuities in the discourses. It should be noted that triangulation is a qualitative procedure that allows validating information through contrasting the data obtained in the investigation (Denzin, 2000).

Results

The results obtained for each group of students are presented below.

Results group 1-2020

Group 1 begins its classes in February 2020 and joins distance education as soon as confinement is decreed in March of the same year, coinciding with what has been called the "First period of the pandemic" . For this reason, the assessments of their educational

experiences are nuanced by the abrupt adaptation to the new online modality, as well as the experience of confinement in the company of family members. Below are the categories that emerged from the interviews conducted.

Face-to-face vs distance education

In this category, the preferences of students for face-to-face classes or distance education are recorded. Of the 14 students interviewed, it was found that there is a greater preference for attendance (11 students). Reports differ as to the reasons for these preferences. The main argument is that in the context of virtual classes, students appreciate greater depth and quality of content and, consequently, better learning. Likewise, it is argued that doubts can be addressed immediately in attendance and that socialization and interaction among students are fundamental elements for learning. These arguments are presented in some of the verbatim that are highlighted below: "The teacher is more prepared to give classes in person" (G1-4), "Because I can express my doubts 100%, in addition to the fact that it does not matter if I have Internet connection or not, I can still take my class" (G1-5) and "There is a more fluid interaction, feedback from the teacher and classmates immediately and directly" (G1-10). Also:

One of the things that I like the most and I do it easily is to learn in person, virtual education is really not bad and given what you live it is necessary, but personally, taking the classes in person would help me a lot. (G1-12).

On the other hand, three students stated that they had a greater preference for learning from home. Beyond the biosafety reasons, no argument was obtained related to the differences in the teaching-learning process: "We can learn in person or online in the same way" (G1-6).

One aspect that should be highlighted in this category is that all the students reported that in the face of the new contingency, the teachers were flexible in incorporating different virtual strategies to carry out distance education. The WhatsApp application and the Facebook social network were used very frequently for contact with the students. The didactic tool for virtual classes that was used the most was the Telmex and Zoom Videoconference, and lastly, the Eminus university platform.

Experience in online education

In this category, it was interesting to know what are the arguments that students present regarding their incorporation into online education in the context of the pandemic. In group 1, eight students indicated difficulties in engaging with the new virtual strategies, which indicates a negative assessment. It is possible to appreciate that the arguments are varied and it is obtained that the most frequent approach refers to economic difficulties in accessing technology and the Internet. On the other hand, the need for some students for face-to-face and tutored learning to answer questions is reiterated. The theme of distraction appears linked to this category and even though it has not been sufficiently explained, it is interpreted that it may be related to the use of the computer as a means of study and at the same time as a hobby, without adequate time management for activities. academic tasks. "In my case, the internet network fails sometimes, sometimes often, and I have to go to the nearest cyber cafe, which is half an hour away by bus" (G1-3). "It is a slightly more complicated learning process since we do not have the teacher in front of us to clear up any doubts" (G1-5). "Because the economic factor greatly influences how to run your school online, in addition to the fact of sharing a computer, my mother takes it to work so she makes it impossible for me to work my activities correctly" (G1-8). "It is easier to get distracted" (G1-14).

On the other hand, the remaining six students report positive assessments of online education. The arguments highlight the development of autonomy in the student in their learning, the need to adapt to new contingencies to continue studying, and even point to economic advantages, since it eventually implies less expense for not having to travel to the university. . "In the first place, working online saves our pockets, apart from the fact that it makes us grow as responsible students" (G1-1). "From my person, I have taken online courses and it is easier for me because the delivery of activities is one per week" (G1-4). "We have to adapt to the necessary measures" (G1-7).

Because it facilitates education for the students and as for the teachers, it also makes it easier for them to do their work, since while you are at a distance it is not wasted time, because the semester is moving forward and we can be in communication (G1-10)

In this category, information was also obtained on the possible withdrawal of students due to the demands of distance education. In the interviews it was possible to appreciate that

four students thought of requesting a drop in some subject, alluding in all cases to lack of support from the teacher.

Socio-emotional conditions derived from virtuality

The third category refers to the emotional processes that students manifest during the experience of the pandemic in the first months of confinement. The most recurrent themes refer to the loads of stress and anxiety due to economic, family and educational issues. The emotional burden due to the economic difficulties derived from the confinement was the most mentioned by the students as a factor that has been fundamental during this period. This aspect was addressed by ten students: "Well, one is left without a job and it's difficult like that" (G1-4). "My dad's unemployment... not everyone has the necessary resources to carry out the quarantine" (G1-9). "Well, the economic issue, I have been exhausting my savings throughout these almost 4 months" (G1-13).

The family environment was another subcategory that appears frequently. This theme mentions the emotional burdens related to situations of loss due to illness or due to the time of confinement together with other family members. "A little bit of the stress burden of my relatives due to being in confinement. The most important is the loss of so many family members" (G1-5). "My anxiety increases and sometimes my medications do not work because of the stress of being alone in my house for a long time" (G1-7).

Education is also presented as a stress factor. The students reiterate situations exposed in the previous categories, such as disagreement with online classes, as well as difficulties in the relationship with teachers, which have generated an additional emotional burden to the situation of confinement. "That I don't like online classes... Teachers must learn to work online" (G1-6). "The anxiety caused by not going to school or my activities" (G1-10).

We are all overworked, I have to help with household chores and help my siblings with their schoolwork, which becomes frustrating because I also have to do university activities. It is also very difficult for me to take my classes by video calls because there is very little Internet access, in the same way to carry out the tasks that the teachers send (G1-11).

Results group 2-2021

Group 2 was interviewed one year after group 1, in the period that has been defined as the "Second period of the pandemic"; for this reason, there has already been a greater adaptation to virtual education and teachers have greater preparation in the implementation of teaching didactics in this modality. The 14 students belong to the same semesters and subjects as the previous group.

Attendance vs. long distance education

Of the 14 students interviewed belonging to group 2, it was obtained that there is a greater preference for face-to-face learning, as it is positively valued by eight students. The reasons that are argued are very similar to those raised in group 1: presence of distractors at home and connectivity difficulties that limit the learning process. Likewise, students value the need for face-to-face interaction. For example: "You can't study, there are distractions and problems at home also affect you more when you're at home" (G2-2). Likewise:

Because a teacher-student interaction is not achieved, which causes some doubts about the topics of the classes. It is also worth mentioning that students do not have control over the malfunctioning of the internet, which is the daily bread in communities (G2-11)

Likewise, it is observed that almost half of the group values online education positively. The most frequent and forceful argument was the flexibility that studying from home allows and the combination of it with other activities, especially work and in some cases caring for the family. Underlying all these arguments is the possibility of guaranteeing economic support without neglecting studies. "It is more flexible for us who are from outside the city where my school is located. This way I spend more time with my family and it helps me in the economy" (G2-4). "Because it is a practical way of learning without the need to affect our economy so much" (G2-5). "I find it much more accessible to take the classes, unfortunately there is a margin of failure due to internet connectivity, which delays. But classes and handing in activities are much more practical for me" (G2-9).

Among the arguments that stand out in the negative assessment of online education in this group, the lack of preparation of teachers in virtual strategies is not mentioned, which suggests that at this point greater skills have already been developed in this aspect, which can be assumed when a widespread use of the Telmex Videoconference and the Eminus

university platform is reported, and the WhatsApp application more as a support tool for group interaction.

Experiences in online education

In this category six students report negative experiences in online education. It should be noted that in these evaluations arguments prevailed that underline difficulties with the didactic processes implemented by the teacher and that the learning was not as expected. Only two students mention technology and internet access as limitations. "In teamwork, most of the time the colleagues who touched me were very irresponsible and never reported" (G2-5). "There are some teachers who do not explain well or do not give feedback to their students, sometimes teachers have difficulties to be able to connect to their class, since the internet is gone" (G2-9). "I would rather die a thousand times from covid than have another semester online because I don't learn" (G2-10). "Not everyone has digital tools, they do not understand technology, there are students who do not have internet and must be spending on a plan for their cell phone and so on to have internet" (G2-14).

On the other hand, eight students value virtual classes positively. The most frequent arguments are linked to the flexibility to study and work. It is also suggested that virtuality has promoted autonomous and participatory learning in the different activities. "The expense I have working from home is lower, apart from the fact that I complete my home and school activities at the same time" (G2-2). "We are learning to use certain tools that we did not know" (G2-6). "Personally, I consider that the virtual classes, for me, were the best, since in person I consider myself very shy and I am afraid to speak, but online I developed more and I liked it" (G2-11).

Socio-emotional conditions derived from virtuality

In this last category, the students who belong to group 2 make evident some recurring processes during confinement that generate emotional burden, which leads to situations of stress, depression and anxiety. Specifically, and linked to what was reported in previous categories, the problem that produced the greatest source of stress in six students was the economic situation and the lack of employment: "The lack of employment has generated a lot of anxiety, because it has worsened our economic condition" (G2-4). "Many people have

suffered emotional problems due to isolation, others have died from the disease and many people have lost their jobs" (G2-10)

The next situation to highlight is family problems due to confinement and living at home, which has generated an emotional burden on six other participants. "Being all together in my family all the time after not being together has caused some minor problems" (G2-1). "Being locked up is something frustrating for everyone, since we are used to a free life" (G2-12)

It is also mentioned that academic activities have been a generator of important emotional load, due to the lack of balance in the strategies implemented by teachers: "The stress and anxiety of the activities on many occasions are too many and with little evaluation value." (G2-3).

On the other hand, a participant refers to illnesses caused by the stress load: "The confinement affected us a lot, several now have depression, anxiety, stress or some illness derived from stress; in my case, I got nervous colitis from so much stress" (G2-5).

Discussion

As proposed in the objective, when comparing the results obtained in the interviews in both groups, continuities are observed in the students' assessments of the transition to virtual education; however, it has also been possible to find qualitative differences between the groups that allow us to interpret changes in the experiences of the pandemic.

The first category that stood out was the assessment of attendance versus virtual education. During the first stage of the pandemic, in the Faculty of Pedagogy of the University, the incorporation of technologies was abrupt, with little preparation of teachers in virtuality and technological limitations on the part of students. Indeed, one of the factors identified in the context of the pandemic in Latin America is that the transition to distance education occurred without trained teachers and without sufficient and adequate technological infrastructure (Fernández, Domínguez and Martínez, 2020).

The priority use of the WhatsApp application and the Facebook social network as teaching tools in the first period of the pandemic by the teachers of the Faculty demonstrates this, since these applications are the simplest, most practical and most useful for distributing teaching content. , solve doubts and inform students. It should be noted that WhatsApp has had a great penetration as the main tool for the development of distance classes in the context

of a pandemic in the region (Hughes, Stallard and West, 2020; Martínez, Serna and Arrubla, 2020; Montenegro, 2020). Likewise, the social network Facebook has been a widely used tool to meet the demands of distance education, thanks to its great popularity among users (Zacarias and Salgado, 2020). However, it should be noted that these applications have not been designed for distance education and have significant limitations in hosting and disseminating didactic content, not to mention that they are not suitable for evaluation processes. For this reason, as interpreted from the reports of group 2, when the initial stage of uncertainty was overcome and as teachers and students acquired greater technological skills, there was a gradual migration towards the virtual educational platforms offered by the University, such as Zoom, Videoconference Telmex and Eminus. These tools gave the opportunity for students to work with greater autonomy and ability to manage academic processes, these indicators of the efficiency of remote learning in the context of the pandemic, as concluded by the research of Armesto, Vallejos, Medina y Bartra (2021).

Another change that can be highlighted between the two periods studied refers to the evaluations of face-to-face education versus virtual education during the pandemic. In both groups, face-to-face education was better valued by students than virtual education, because the first modality offers a greater depth of content, resolution of doubts and socialization of knowledge through interaction.

Regarding virtual education, the arguments of the students in group 1 emphasize the lack of preparation of teachers to engage with technologies, an issue that seems to have been resolved in the second stage of the pandemic, since the interviews did not show mention this limitation. On the other hand, another consideration that negatively values group 1 is that homeschooling encourages distraction, an argument that has also been highlighted in the research by Molina, Lizcano, Álvarez and Camargo (2021) as a crisis factor in children. students during the pandemic.

Consequently, in group 2, a better evaluation of virtual education was observed due to the flexibility of combining studies, work and domestic tasks, where the possibility of guaranteeing economic support without neglecting studies underlies the background. The flexibility criterion of virtual distance education has been highlighted as one of the advantages of promoting this modality during and after confinement (Valdivia and Noguera, 2022; Valverde et al., 2021). However, access to technologies and the Internet is a limitation perceived by both groups, which can be considered as a situation to be overcome in order to achieve effectiveness in virtual education, taking into account that this factor has been

reported in the literature as an obstacle for the effective adaptation to virtuality in Latin American countries (Gómez y Escobar, 2021; Montenegro, 2020).

Emotional burden is a condition present in both groups. The reports of situations of stress, anxiety and depression are manifested in the students in the two moments of the pandemic, which allows us to affirm that confinement at home, economic pressures and academic pressure have undoubtedly been generators of emotional load, a problem that higher education institutions must undoubtedly address today, since the emotional impact of home education on students has been evidenced (Rodríguez, Carbajal, Narváez and Gutiérrez, 2020).

As in the other categories studied, it is noteworthy that there are differences in both groups in terms of the type of situation that generates stress and anxiety. In group 1, concern was expressed about illness and death from covid-19, while in group 2 the concerns are more focused on economics and the lack of employment of household members. This allows us to interpret that there is a transition in the socio-emotional situations that most intensely affect the students interviewed during the two moments of the pandemic, since at the beginning of the confinement the concerns were more focused on health care and in the deaths of family members from the disease, while in the second moment, once partial control of the situation was taken through biosecurity measures and vaccination, the economic impact derived from the pandemic was revealed, which undoubtedly affected to the student population of the University.

The results of the study are consistent with what was reported by García, Sánchez, Santiago and Sánchez (2021) and Canaza (2021), who establish that during different stages of the pandemic changes and repairs have been made in order to overcome the initial obstacles in the educational process, these especially referred to teacher training in technologies for the benefit of student learning.

It should be noted that the greatest limitation that can arise in this study is precisely the obtaining of qualitative information in the context of the pandemic, since it was necessary to address the problem without excluding personal aspects that the students experienced. It can be affirmed that this procedure could have biased the results in some way and in many cases made it difficult to distinguish the educational processes studied from the experiences in the development of the pandemic.

In this sense, and taking into account the reported limitation, it would have been relevant to consider the objective from a correlational study that would allow observing and defining these relationships from a quantitative perspective to specify the changes. When reviewing the scientific literature, no studies were found that identified these correlations before and during the pandemic, which has also made it difficult to obtain background information relevant to the study.

Conclusions

In educational research it is essential to deepen the effectiveness of the didactic strategies implemented by teachers in non-face-to-face education and how they have been received by students, since this is largely based on the effectiveness of the learning obtained in the modality. virtual. Evidently, the pandemic introduced sudden changes in the educational process, in a system that was not fully prepared for virtuality and with teachers who were poorly trained to face the new challenges. As evidenced in the study, the initial errors and limitations were progressively corrected, not only thanks to the adaptation of tools according to the new distance reality, but also progressively with the incorporation of didactic strategies by teachers that led to a better approach. from students to content. In this sense, the comparative analysis of the students' evaluations about the incorporation to virtuality during two moments of the pandemic allowed to show some positive changes in terms of the acquisition of new technological skills and organization of time, especially in the face of new labor demands. and economic demands in times of pandemic, which allowed participating students to make study time and work time compatible; Likewise, he highlighted the positive change of a greater acceptance of virtuality as a resource for academic training. However, it was also evident that, throughout the period studied, the load of anxiety and stress in the interviewed students was intense, according to the reports obtained, which is not only attributed to the educational demands, but also to the health situation that lived during that period.

Future lines of research

It is essential that future lines of research continue to consider the teaching-learning processes in the pandemic from the perspective of the students, in order to understand their impact on the effectiveness of virtual education.

On the other hand, it is also important to generate studies with both a qualitative approach and the present one, as well as correlational research in which student reports on the didactic strategies implemented at different stages of the development of the pandemic are analyzed, which will allow assessing the changes and their repercussions. The nature of the phenomenon under study is unprecedented, since it is an issue that has occurred due to the effects of a pandemic and is not susceptible to new records; For this reason, researchers are suggested to collect data from their didactic experiences and systematize them to present them to the scientific community.

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