https://doi.org/10.23913/ride.v13i25.1314

Artículos científicos

Retos y perspectivas de la educación universitaria intercultural en tiempos de pandemia. Una visión docente

Challenges and Perspectives of Intercultural University Education in Times of Pandemic. A Teacher's Vision

Desafios e perspectivas da educação universitária intercultural em tempos de pandemia. Uma visão de ensino

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Resumen

El propósito de esta investigación fue describir, desde la percepción de los docentes de una universidad intercultural del sureste de México, las principales adversidades y experiencias positivas que significó la adopción de una práctica educativa virtual y a distancia a causa de la pandemia de covid-19, al igual que su impacto en la calidad y acceso a la educación universitaria. Metodológicamente, se desarrolló una investigación cuantitativa de tipo descriptiva y transversal. El universo poblacional correspondió a los docentes de las siete licenciaturas que ofrece la universidad intercultural objeto de estudio en sus tres sedes, a partir del cual se determinó una muestra no aleatoria de 32 profesores. La información de campo fue obtenida mediante la aplicación de cuestionarios estructurados en 27 preguntas y 41 ítems. El análisis de confiabilidad de consistencia interna del instrumento arrojó un índice alfa de Cronbach de 0.739 para 68 elementos, lo que indica una alta confiabilidad. Asimismo, para el análisis estadístico de la información captada se utilizó el procesador de datos SPSS versión 20. Se encontró que el cambio de modalidad educativa debido a la pandemia impactó severamente las posibilidades de acceso a una educación de calidad por parte de los estudiantes universitarios, dadas las condiciones de marginación y pobreza, así como el rezago socioeconómico y tecnológico, todo lo cual acentuó la inequidad y desigualdad en materia educativa intercultural.

Palabras clave: distanciamiento social, educación en línea, interculturalidad, pandemia, tecnología digital.

Abstract

The purpose of this research was to describe, from the perception of the teachers of an intercultural university in southeastern Mexico, the main adversities and positive experiences that the adoption of a virtual and distance education practice meant due to the COVID-19 pandemic, as well as its impact on the quality and access to university education. Methodologically, a descriptive and cross-sectional quantitative research was developed. The population universe corresponded to the teachers of the seven bachelor's degrees offered by the intercultural university under study in its three campuses, from which a non-random sample of 32 teachers was determined. Field information was obtained through the application of questionnaires structured in 27 questions and 41 items. The internal consistency reliability analysis of the instrument yielded a Cronbach's alpha index of 0.739





for 68 items, indicating high reliability. It was found that the change of educational modality due to the pandemic severely impacted the possibilities of access to quality education by university students, given the conditions of marginalization and poverty, as well as the socioeconomic and technological backwardness, all of which accentuated the inequity and inequality in intercultural education.

Keywords: social distancing, online education, interculturality, pandemic, digital technology.

Resumo

O objectivo desta investigação era descrever, a partir da percepção dos professores de uma universidade intercultural no sudeste do México, as principais adversidades e experiências positivas que a adopção de uma prática educacional virtual e à distância significava devido à pandemia da covid-19, bem como o seu impacto na qualidade e no acesso ao ensino universitário. Metodologicamente, foi realizada uma investigação quantitativa descritiva e transversal. O universo populacional correspondia aos professores dos sete diplomas de bacharelato oferecidos pela universidade intercultural em estudo nos seus três campus, a partir dos quais foi determinada uma amostra não aleatória de 32 professores. Os dados de campo foram obtidos através da aplicação de questionários estruturados em 27 perguntas e 41 itens. A análise de consistência interna da fiabilidade do instrumento produziu um índice alfa do Cronbach de 0.739 para 68 itens, indicando uma elevada fiabilidade. Verificou-se que a mudança da modalidade de ensino devido à pandemia teve um forte impacto nas possibilidades de acesso a um ensino de qualidade para os estudantes universitários, dadas as condições de marginalização e pobreza, bem como o atraso socioeconómico e tecnológico, o que acentuou a desigualdade e desigualdade na educação intercultural.

Palavras-chave: distanciamento social, educação online, interculturalidade, pandemia, tecnologia digital.

Fecha Recepción: Marzo 2022 Fecha Aceptación: Septiembre 2022

Introduction

At the beginning of 2020, the world experienced a drastic and unforeseen change due to the sudden outbreak of the pandemic caused by the type 2 coronavirus that causes severe acute respiratory syndrome (SARS-CoV-2), and which for two years has affected all spheres of human life. This is added to other global phenomena already present before the pandemic, such as climate change, loss of biodiversity, ungovernability, inequality and poverty, which together pose one of the most challenging moments for humanity.

Education, one of the pillars of the development of societies, was also disrupted and aggravated by the health crisis and mandatory confinement, which forced us to rethink how to efficiently take advantage of the virtual modality and online digital resources, as well as to incorporate them definitively in subsequent educational processes.

The negative impact of the pandemic in terms of quality and access to education has been evident; the foregoing will hinder the achievement of the Sustainable Development Goal (SDG) 4: "Inclusive, equitable and quality education". The confinement strategy adopted and the consequent transition from face-to-face to virtual and distance modality revealed the magnitude of the problem of inequality and inequity present at all educational levels; exposed the existing realities in contexts of marginalization and poverty in which the academic activities of students and teachers are developed.

Thus, compulsory isolation, the suspension of public activities of all kinds, mobility restrictions and the closure of non-essential establishments affected academic activities at all levels, and made clear the inequality in access to technological means, technology mobile phones and the Internet, as well as the lack of skills in the management, use and exploitation of said information technologies. In this context, the World Bank (2020) identified three important stages: 1) face the pandemic with the closure of schools to protect the health and safety of students; 2) manage the continuity of learning and the safe reopening of educational spaces, and 3) improve and accelerate learning, taking advantage of the moment to rebuild educational systems with the aim of making them more solid and equitable than before the pandemic.

As for higher education in Latin America, the impact on students and teachers has been significant, especially in rural areas and in indigenous regions. Pedró (2021) reports an estimated 23.4 million higher education students and 1.4 million teachers of the same educational level affected in Latin America and the Caribbean, which represents 98% of the total number of students and teachers in the region. The same author points out that the



change to the virtual or distance modality through the Internet, telephony, radio and television was the only emergency solution found, which was not planned and had no infrastructure or developed capacities in students and teachers, which that harmed the quality and accessibility of higher education.

According to data from the International Telecommunications Union (cited in Pedró, 2021), only 52% of households in Latin America have equipment and connectivity, however, in some countries the availability of mobile telephony is high, even reaching a coverage of 100%. On the other hand, the trend towards distance education was not high, 15% of the total in 2017, with Brazil and Colombia as the highest representatives. With the arrival of the pandemic, some countries rushed to authorize distance courses in most universities. A third element is the pedagogical method used, which has been given the name of coronateaching, that is, using digital media and information but without changing the content or methodologies, which means an adaptation effort that ends up overwhelming the teacher. and to the student.

Martínez and Garcés (2020) emphasize the need for teachers to develop digital skills in order to make more efficient use of available technological resources, especially the ability to create content. On the other hand, Sánchez et al. (2020) emphasize that teachers should be given more didactic advice, as well as training in the use of new communication technologies applied to online education at all levels.

One aspect to highlight about Latin American higher education is that its vocation for linking with society, strongly rooted in the reform of Córdoba, Argentina in 1918 and the Regional Conferences on Higher Education in Latin America and the Caribbean in 1997, 2008 and 2018, put educational and research centers to work on the response to the pandemic immediately, based on the research and publication of a large number of scientific articles with findings on the new disease and the various ways to prevent and treat it, as well as from the design of equipment for the diagnosis and control of the disease, all of which resulted in valuable support for health systems (United Nations Educational, Scientific and Cultural Organization [Unesco], 2020). In the same way, Núñez and Fernández (2021) mention the case of the University of Havana, which has stood out for contributing to the control and combat of the disease, for example, with one of the five vaccine candidates that Cuba has.

In the case of Mexico, from 2020 to date, regional cooperation agencies in education and national agencies have generated various tools, documents, support platforms, and device prototypes to better deal with the pandemic. Such is the case of the UNESCO Institute for



Higher Education in Latin America and the Caribbean [Iesalc], the National Association of Universities and Institutions of Higher Education [Anuies], the National Institute of Statistics and Geography (Inegi), the University National Autonomous University of Mexico (UNAM), the National Polytechnic Institute (IPN) and the Autonomous Metropolitan University (UAM), among others.

Proof of this is the site "COVID-19: Monitoring of the state of higher education in Latin America and the Caribbean" of Iesalc (2022), where progress in the reopening of universities, connectivity coverage to internet and the percentage of vaccination of the population; the "Polytechnic actions against COVID" site and its interactive map of the disease situation by state and municipality of the IPN (2022); the "Interactive map and socioeconomic characteristics" by state and municipality of the Inegi (2022), as well as the guidelines for the safe return to classes in the different universities (Anuies, April 24, 2020; Special Security Commission of the University Council, 16 November 2021; UAM, 2021).

Acosta (2020) highlights the work of Anuies to respond at the beginning of this emergency with documents, strategies and resources in education, as well as the immediate response of UNAM and UAM, educational institutions that took advantage of their previous experience in the development of online educational programs —before the pandemic— and that supported students with computer equipment and the internet.

The way of evaluating learning has also been modified, and it is not yet known in depth how this will affect the quality of the training of graduates and their insertion into the labor field in an economy that is already depressed by the confinement losses of the employment and income, although in some countries signs of recovery are beginning to show as the population has access to the protection of vaccines (Pedró, 2021; Special Commission for Latin America [ECLAC], 2021).

However, this global phenomenon represents an opportunity for educational actors and for researchers and scholars of education, since it opens new lines of research and allows the exploration of new innovation tools to turn threats into strengths and opportunities for transformation and resilience into benefit of students and society in general (Unesco, 2020). In the same way, the crisis has made it possible to assess the importance of communication between the different actors: teachers, students, institutions and parents, in order to overcome the obstacles that arise in the development of the educational process in this emerging situation. and to use the devices within reach (Villafuerte, Bello, Pantaleón and Bermello, 2020).



On the other hand, the effects of the health crisis on the physical and mental health of teachers and students is an issue that will have to be addressed as progress is made in the online and distance educational process. López and Contreras (2022) mention that the psychological impact and stress derived from confinement has affected the mental health and academic performance of students. In this regard, it is necessary to recognize the effort of teachers to access new technological skills at the service of their students, and the positive attitude shown by both actors in the face of the limitations of the context. However, it is necessary to point out that a gradual process of adaptation, updating and innovation is required to face the new challenges posed by the pandemic in terms of education. Gervacio and Castillo (2022) identify the affectation of high school teachers in emotional, physical and socioeconomic aspects, such as fear, anguish, depression and irritability; and the fear of losing job stability, one of the biggest concerns.

Silas and Vázquez (2020) warn about the drastic decrease in the interaction between teachers and students basically due to the connectivity limitations of the latter. However, they also highlight the increase in empathy and creativity of teachers with their students, in order to give continuity to the educational process. The teacher has played a very important role in the online and distance educational process, because, in addition to being a subject teacher, he has also been a tutor and counselor for the student to better face the effects of the pandemic and thus avoid desertion. school (Villafuerte et al., 2020).

Gazzo (2020) mentions that this crisis has taught us to take advantage of cyberspace and turn it into a true space for the exchange of knowledge and significant learning. For his part, Buendía (2020) points out that it is imperative to overcome this educational emergency situation in which the pandemic has placed us, and the need to work consistently on the planning and generation of appropriate public policies regarding online education. and at a distance at all educational levels.

As for scientific research, the pandemic has implied new challenges, but at the same time it has opened the possibility of new lines of research for the generation of basic and applied research, and thus generate scientific proposals to better face the crisis. healthcare in all its aspects (Silas and Vázquez, 2020). In this sense, Santiago, Scorsollini, and Barcellos (2020) point out the importance of the topic of post-pandemic physical and mental health in students and teachers as a new field of research, and recommend that these aspects be integrated into both study programs and teaching programs. institutional research projects, since international organizations linked to health, multinational cooperation and financing,





as well as national health and education institutions, predict that the effects of the pandemic will be present in the short, medium and long term.

Balluerka *et al.* (2020) report various physical and psychological effects on the general population due to changes in habits and customs during prolonged confinement. For their part, Ramírez, Arvizu, Ibáñez, Claudio and Ramírez (2020) point out the need for psychosocial support for families, derived from the conglomeration of all its members for an indeterminate time in the home, a fact that generates stress and changes in relationships. interfamily. In this sense, García and Sánchez (2020) highlight the prevalence of various musculoskeletal disorders, especially in the dorso-lumbar and neck regions in university teachers, as a consequence of prolonged permanence in front of their computer equipment, a technological instrument based on the online education system.

Santiago et al. (2020) add that teachers are also exposed to the risks of occupational diseases related to their physical and mental health, conditions that can go unnoticed and that must be detected, diagnosed and treated in a timely manner by health professionals. Finally, Silas and Vázquez (2020) insist on the need for a post-pandemic care program aimed at teachers, in order to support them in recovering from the wear and tear caused by the crisis, as well as their adaptation to the consequences of the disease. In what corresponds to young people, alterations in their behavior are evident, reason for the loss of ties and contact with their peers, which can mean situations of risk of school dropout, failure, addictions and antisocial behaviors (World Bank, 2020).

In this line, Alemán, Vera and Patiño (2020) advocate the search for solutions in a context of uncertainty and accelerated changes with the aim of training professionals capable of responding to the rapid expiration of knowledge, as well as consolidating institutions capable of innovating and opportunely articulate its scientific production to the changing needs of society, a new opportunity to generate adaptive processes and new ways of teaching.

According to Mateos and Dietz (August 9, 2020), the advances in intercultural education in the years prior to the pandemic have disappeared from the government agenda during this health crisis, in an effort to complete the curriculum of the education plans. national study at different levels. In the case of intercultural universities, whose central axis is community bonding, as a result of the pandemic and the adoption of the online education system, a marked stagnation is observed in the relationship with the surrounding communities. In some cases, the communities themselves have managed this isolation with a modality where internal relations are not suspended, although they do stop the flow of



people from abroad. In this context of change and uncertainty, it is relevant to investigate the impact of the pandemic on intercultural university education in Tabasco, from the perspective of one of the fundamental actors in the educational process, such as teachers. This is the purpose of the present investigation.

Materials and methods

Objective

To describe, from the teachers' perception, the main adversities and positive experiences that the adoption of a virtual and distance educational practice meant due to the 2019 coronavirus disease (covid-19) pandemic and its impact on the quality and access to university education.

Design

This research was developed with a quantitative, descriptive and cross-sectional approach, and the survey technique was used.

Instrument

To obtain field information, a structured questionnaire with closed and multiple-choice questions was used as an instrument, which was applied digitally on the Google Forms platform. The information collected corresponds to the seven degrees offered by the Intercultural University of the State of Tabasco (UIET). The applied questionnaire consists of 27 questions and 41 items formulated in correspondence with the research objectives, with closed and multiple-choice answers. The questions inquire about the following topics: personal physical and mental health, conditions in their place of residence, connectivity, attitudes and leadership in the family, perception of change in the context, self-assessment of performance, affectation of students from the teacher's point of view, presence of the university in society during the pandemic, and perspective on the return and continuity of learning.





Population and sample

The total study population corresponded to the 52 full-time professors that the UIET has, of which 32 professors answered, who are assigned to the headquarters and to the two existing academic units.

Prosecution

For the analysis of the information, the data processor IBM SPSS Statistics, version 20 was used; First, the conversion of the Google Forms form to Excel format was carried out and later it was entered into SPSS, but not before making some coding adjustments.

Reliability analysis

Using the IBM SPSS Statistics processor, the internal consistency reliability analysis was performed, which yielded a Cronbach's alpha index of 0.739 for 68 items, which, according to the Ruiz (2002) scale, indicates high reliability.

Characteristics of the target population

Of the 32 full-time professors who answered the questionnaire, 62.5% are men and 37.5% women; Regarding their age, 56.3% were in the range of 30 to 39 years old, and 34.4% between 40 to 49 years old, which denotes a prevalence of young teachers, at an age of high productivity. Regarding their marital status, 53.1% stated that they were married, and the remaining 46.9% were single or in a free union. Regarding their origin, 34.4% come from the representative native peoples of Tabasco, which denotes a strong roots and presence of the educational institution among the ethnic population of the entity.

Results

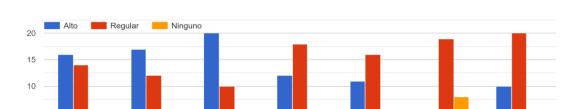
In the context of the covid-19 pandemic, the tasks of teaching, research, bonding, tutoring, thesis supervision, as well as the direction of bonding or research projects continued to be carried out in a virtual environment, which meant difficulties and challenges for teachers. Through statistical frequency analysis, it was possible to identify the perception of intercultural university teachers on aspects related to their teaching practice and the student learning process. For a better analysis, the results were grouped into nine categories, which are described below.



State of physical and mental health

Given the experience, it was expected that the state of physical and mental health of the teachers at the end of the analyzed period was not excellent. However, 40% of them reported that their physical health was good and 37.5% fair. Likewise, 50% stated that their mental health was fine, while 31.3% in a regular situation. On the other hand, the change from face-to-face to virtual education meant a high level of stress for the teacher. When inquiring about the causes that generated a high level of stress, 62.5% attributed it to the poor internet connection and delay in the delivery of student tasks, due to the lack of communication and connectivity with them. On the other hand, they also faced a regular level of stress due to time pressure, family problems, changes in the didactic strategy and difficulties in managing the technological educational platform (figure 1).

Figure 1. Teacher stress factors during the pandemic



Nivel de estrés que viviste en el periodo de actividades a distancia

Source: self made

Deficiente conexión a internet

Perception of changes in the context

The presence of the pandemic and its effects on health, economy and well-being brought with it significant changes in the community social context. This is how 53% of the teachers surveyed perceive it (figure 2). The aspects in which these changes are most perceived are economic (50%), social (43.8%) and spiritual (40%). There is a perception of radical and profound changes in economic and social aspects in the community environment. On the other hand, the intercultural teacher managed in a positive and open way the change experienced as a result of the pandemic, since 62% of the respondents expressed their openness and occupation with creativity, flexibility and tranquility (figure 3).



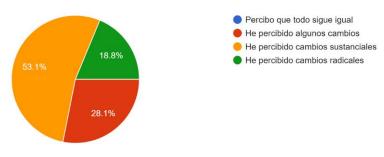
Comunicación con estudiantes

Manejo de plataforma educativa

Presión del tiempo

Figure 2. Perception of changes in the environment of teachers

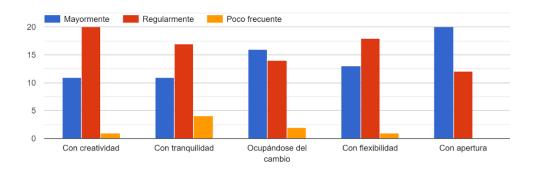
¿Cómo percibes los cambios en tu entorno a raíz de la pandemia COVID19? 32 respuestas



Source: self made

Figure 3. Management of change by the intercultural teacher

¿Cómo consideras que gestionas personalmente el cambio?



Source: self made

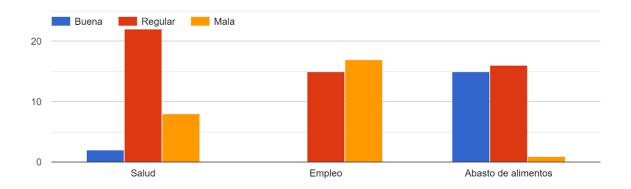
Situation of the community of origin

The teachers' perception of the health situation of their community of residence was regular according to 68.8% of the participants and bad according to 25%; only 6.3% considered it to be good, which is indicative of the strong impact of the pandemic on the health of the population. Regarding employment, the impact was more drastic, since a bad situation was perceived by 53.1% of the sample and regular by 46.9%. It is noteworthy that on the subject of food supply, the opinion was highly positive, since almost 47% considered it good and 50% regular, which is indicative of the culture of food production and self-consumption in rural areas (figure 4).



Figure 4. Perception of the teacher about the situation of his community

¿Cuál es la situación de la comunidad en donde radicas, respecto a:?



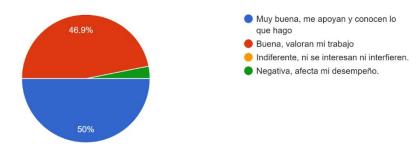
Source: self made

Leadership in the family

The good relationship between the teacher and his family during confinement is remarkable. Since 50% said they had received family support for the performance of the work they do for the university and 46.9% declared a good relationship within the family, the teaching work done from home is highly valued (figure 5). Likewise, the intercultural university teacher demonstrated leadership at home, since 72% said they had encouraged the participation of their family members in security, food, provision and communication activities during confinement. Regarding the prevention and care measures adopted against covid-19 within the family, a marked leadership of the teacher is also highlighted, 62.5% of them mention having promoted the establishment and compliance with rules within the family, aspect of the greatest importance for the safety of the family nucleus against possible contagion. The teacher's leadership within the family allowed an adequate response from his family in the face of the health crisis, as expressed by 43.8% of those surveyed.

Figure 5. Family relationship of the teacher within the home

¿Cómo es tu relación familiar al atender tus obligaciones laborales en casa? 32 respuestas



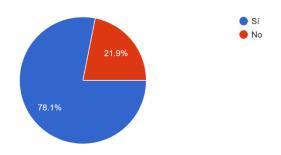
Source: self made

Role of the institution during the pandemic

Regarding the role of the institution during the change of educational modality, the teaching opinion is unfavorable, since 78.1% identified bottlenecks and institutional limitations that directly affected the students (figure 6). In this regard, 53.1% of the teachers pointed to the school services area and 43.8% to the undergraduate coordination as instances that generate bottlenecks. Regarding the educational institution's interest in the health of its teachers and students during the pandemic, 40.6% indicated a low level of interest, while 31% stated that there was no interest and only 25% favored a medium level of interest. interest. Regarding the institutional presence in society during the pandemic, 50% of teachers perceived a low level of institutional presence, 25% medium level and 18.8% no degree of presence. This despite the fact that in the university campus and in the academic units there are professors and students in the area of health who could potentially influence the benefit of the population.

Figure 6. Role of the institution during the pandemic

¿Identificas algún cuello de botella en la comunicación o proceso administrativo de la Universidad que afecte a los estudiantes en esta modalidad a distancia?
32 respuestas



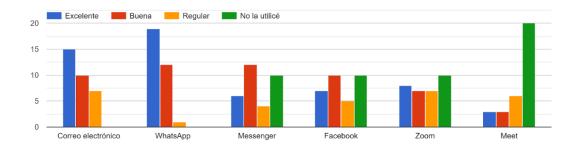
Source: self made

Digital access and connectivity

A decisive factor in the continuity of higher-level educational activities during the pandemic was the access and quality of internet and cell phone connectivity. In rural spaces where intercultural teaching activities are carried out, ideal conditions are not always met in this regard. Thus, 62.5% of the teachers reported a regular and poor quality of the internet and only for 31.3% it was good. Regarding the quality of telephony, the situation did not vary much, since 53.2% considered it fair and poor, while only 37.5% considered it adequate. On the other hand, just over half of the teachers (53.1%) admitted not having used any educational platform, while 46.9% did. Of the three technological platforms used in online teaching, Google Classroom is the one most used by teachers, with an adequate opinion of around a third of the sample (33.6%); in second place, Moodle was used by almost 19% of the total. Likewise, applications and social networks were used more than educational platforms; The use of WhatsApp stands out with 59.4% of the total, an excellent medium for teacher-student communication, followed by the use of email, Messenger and Facebook (figure 7). The Zoom application was used by 69.7% of teachers, who reported an adequate level of efficiency. For their part, the vast majority of teachers mention having a good command of technological tools, as expressed by 75% of the total.

Figure 7. Efficiency of social networks

¿Cómo calificas la eficiencia o desempeño de las redes sociales que utilizaste en este periodo?



Source: self made

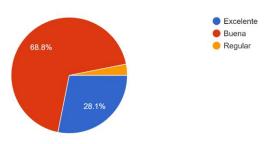
Performance Self-Assessment

In a self-assessment exercise in general, 68% of the teachers of the intercultural university considered that they had performed well during online and distance work; even for 28% this was done with excellence (figure 8). When disaggregating it, it is found that in content quality, 75% recognize good performance, while the remaining 25% considered it excellent and regular. In the accompaniment of students, 59.4% assume a good performance, 28.1% excellent and only 12.5% regular. In the use of didactic supports, 62.5% recognize good performance, 28.1% regular and only 9.4% excellent. Finally, in empathy with their students, it is noteworthy that 50% of the total is evaluated with a level of excellence, while 46% considered it as good. These two aspects (patience and empathy) reveal the teacher's interest in his students, despite the adverse conditions faced by both actors in their communities of origin.



Figure 8. Self-assessment of teaching performance in distance modality

¿Cómo calificas tu desempeño en el trabajo a distancia realizado? 32 respuestas



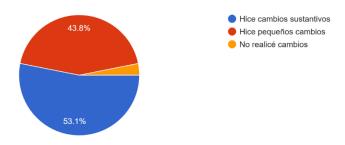
Source: self made

Impact on students

It is a fact that the pandemic had adverse effects on the academic performance of intercultural university students: 59.4% of the professors stated that the sudden change from face-to-face to virtual modality greatly affected the performance and terminal efficiency of their students, in so much so that 34.4% reported a medium involvement. Regarding the evaluation of learning, 75% of teachers stated that it was greatly affected by lack of connection, lack of computer equipment or cell phone, as well as lack of experience in its use. Faced with this, 53.1% of the teachers were forced to substantially modify their evaluation parameters, while 43.8% made small changes and only 3.1% did not make any changes (figure 9). Other aspects that moderately affected the evaluation were the lack of communication, the loss of interest of the students themselves, their lack of time to work online, and the labor needs in the face of the economic consequences of the health crisis.

Figure 9. Changes in the parameters of teacher evaluation

¿En este cambio a modalidad a distancia hiciste cambios en los parámetros de evaluación de los estudiantes?
32 respuestas



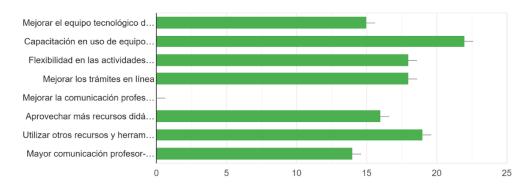
Source: self made

Continuity of the educational process

Given the need to return to the face-to-face modality as soon as the sanitary conditions made it possible, various positions were presented. Thus, 84.4% of teachers expressed that the most ideal would be to continue with school activities at a distance, and only 15.6% expressed themselves through the face-to-face scheme, given the magnitude of the health problem and the possibility of an exponential increase in infections due to the concentration of students in the classrooms. Regarding the distance modality, teachers expressed various recommendations, among which stands out, with 37.5%, greater training in the management of equipment and platforms, the use of more teaching resources, with 15.6%, and the improvement of procedures online, flexibility of activities and use of other resources and tools, with 10% of the total (figure 10). On the other hand, in the event that the institution decides to continue with the face-to-face modality, the recommendations made by the professors include following the established health security measures (53.1%), considering students in a situation of social and economic vulnerability (16.6%), establish control of entrances and exits as a preventive measure (15.6%) and have medical services within the university, as well as space out teaching and cultural activities to avoid high concentrations of students and the general population.

Figure 10. Teacher recommendations for the return to face-to-face activities

En caso que el siguiente semestre continúen las actividades a distancia, ¿cuáles serían tus recomendaciones? Puedes elegir más de una.
32 respuestas



Source: self made

Discussion

The covid-19 pandemic and prolonged social confinement have had a significant impact on the teaching-learning process of higher education in rural and indigenous areas of Mexico, and have exacerbated the inequality and marginalization that still persist in some regions of the country. country. The findings found on intercultural higher education in Tabasco in times of pandemic from the point of view of teachers allow us to carry out the following analysis.

Regarding the state of physical and mental health, although the results show a high percentage of teachers with a good and regular state of physical and mental health, indicative of the emphasis on self-care and the example they should set for their students, 6.3% expressed that his mental health was very poor, possibly due to some traumatic event or loss of a family member. Given this, timely psychological attention is important, since teachers also act as student tutors, a function that requires emotional stability. Regarding the high level of stress, 62.5% attributed it to a poor internet connection, which is understandable if one takes into account that half of the teachers come from rural areas, like the majority of their students, an area where the connection it is deficient and in many cases non-existent, as reported by Inegi (2022), World Bank (2020) and Pedró (2021).

A good part of the teachers also faced high stress due to the delay in the delivery of student tasks, largely due to the lack of communication and connectivity with them. On the



other hand, they also faced a regular level of stress due to time pressure, family problems, changes in the didactic strategy and difficulties in managing the technological educational platform. Regarding the emotional part, it was reported that the emotions and feelings that were most present were the saturation of activities and tasks, stress, happiness and confidence. On the other hand, the ones that appeared the least were indifference, boredom, disappointment, fear and threat, so that in general a positive attitude was perceived on the part of the teacher.

Regarding the perception of changes in the context, at the beginning of the pandemic these were perceived with uncertainty and bewilderment, but as the weeks and months passed they have been getting used to them and adapting to them. There is a tendency to imagine that everything will go back to the way it was before, which is impossible given the security measures and protocols for social life. On the other hand, the magnitude of the crisis in terms of coverage and the high risk to human life has forced us to reflect on our own priorities and the changes necessary to cope with this new situation.

Regarding the situation of the community of origin, of the three elements analyzed in this point: health, employment and food, the first two were negatively affected, in the case of health, by direct involvement of the disease and its consequences or due to the death of relatives, which creates an atmosphere of uncertainty; the loss of employment due to the closure of most of the commercial establishments where the income of the people was obtained was also significant, so the opportunities for well-being were reduced. Finally, the perception that the aspect of food was not affected is striking, as reported by the United Nations Food Organization for Latin America and the Caribbean [FAO] (2020), in the sense that During the pandemic, food production in rural areas and the supply chain between the countryside and the city did not stop.

In relation to leadership in the family, most intercultural teachers have played a leadership role in the organization and participation in the daily tasks of the home, as well as in the actions for the self-care of their families' health. The attitude of gender equity and collaborative work that teachers promote when working with their students from an intercultural perspective was put to the test with their own families during confinement. This fact was an important part in promoting leadership in both aspects towards students.

On the other hand, regarding the role of the institution during the pandemic, although the University did report some actions such as the preparation and distribution of antibacterial gel to the closest population, the promotion of sanitary measures among the population and





the translation of messages to the native languages in different printed and audiovisual formats for their subsequent dissemination, the perception of the teachers is that the expected presence was not had, considering that two of the degrees are dedicated to the subject of health. On the other hand, the social link between the institution and the community in these times of health crisis should be a priority.

On access and digital connectivity, the results of the research reveal the existing limitations for access to information technologies and their use, connectivity problems and the availability of electronic devices. In this aspect, it is where inequity and difficulties for the continuity of learning were most manifested. Studies prior to the pandemic (Iesalc, 2022; Pedró, 2021) point to a shortage in rural and indigenous areas of communication and connection resources in electronic and digital media, such as devices and connection to telephone and internet, and in In most reports, this was overwhelmed and exacerbated by the pandemic. The increase in information and communication technologies (mobile phones, laptops) and various tools and applications (WhatsApp, Facebook, Zoom, Google Classroom) for distance academic work is confirmed, as reported by Núñez, Atila, Banegas and Esparza (2021).

In what corresponds to self-assessment of performance, the evaluation of learning in times of crisis is one of the most controversial aspects, since it involves the modification of traditional evaluation parameters and indicators in the absence of normal conditions for a good performance of the students. Students. Regarding this, most of the teachers stated that they were greatly affected by the lack of connection, lack of computer equipment or cell phone, as well as the lack of experience in its use. Faced with this, more than half of the teachers surveyed were forced to substantially modify their evaluation parameters, while others made only small changes, and a small percentage did not make any changes. Other aspects that moderately affected the evaluation were: the lack of communication, the loss of interest of the students themselves, their lack of time to work online, and labor needs in the face of the economic consequences of the health crisis.

Regarding the preparation for the change, 42% of the respondents were trained by the institution, which speaks of a timely institutional response, and 41% had to take courses on their own, which demonstrates proactivity and agency capacity of the teacher. Regarding the management of digital platforms, the teachers who had difficulties assured that it was due to failures or slowness in the internet signal. Additionally, as a consequence of the transfer of teaching work from the classroom to the home, it was found that teachers faced distractions,



interruptions, noise and difficulties in balancing domestic activities with school activities, which is logical since teachers' homes are not adapted for academic work.

In relation to the impact on the students, the limitations of the context mentioned in this study negatively affected their school performance, and in some cases caused the lack of continuity in their school career, their academic drop and therefore the impossibility of completing their studies. superiors, as reported by Silas and Vázquez (2020) when they mention that both teachers and students spend more hours in the virtual modality, which could cause physical and mental wear, suffering and school dropout. Regarding administrative bottlenecks such as school services and undergraduate coordination that affected students, the institution will have the opportunity to review and improve processes in these areas and adapt them to the prevailing conditions in times of pandemic. The impact on the learning of graduates and their insertion into a depressed and uncertain labor field is not known, an immediate task will be to try to compensate the negative impact with the generations that are still in the university.

Finally, regarding the continuity of the educational process, the teachers mentioned that given the uncertainty of the behavior of the disease and the measures decreed by the health and educational authorities, it is better to be cautious and continue the activities at a distance, following the instructions of gradual return according to the epidemiological traffic light. Several recommendations were mentioned in case of both scenarios.

Conclusions

The prolonged social confinement due to the covid-19 pandemic has had a significant negative impact on the teaching-learning process of intercultural higher education in rural and indigenous areas of Mexico, and has highlighted the inequality and marginalization that still persist. in some regions. Intercultural higher education has severely faced the consequences of lack of connectivity, technological backwardness and lack of access to information technologies, determinants of educational quality in a virtual work environment; the findings found on intercultural higher education in Tabasco in times of pandemic from the point of view of teachers confirm this.

Professors have managed to fulfill their teaching, research, outreach and tutorial responsibilities in an environment of health crisis, despite facing in the same way the labor and health consequences of the presence of the pandemic, as well as technological limitations mentioned in this work. Likewise, they have shown an adequate response to the effects of



the health crisis, assuming leadership both in the educational field and in their family environment, and without downplaying other activities concerning health prevention and safety.

Given these results, it is important that the educational institution considers the need to modify learning strategies, gradually moving from a face-to-face educational practice to a mixed environment (face-to-face-virtual), where connectivity and information technologies are available to students. and teachers are essential. In the same way, the development of content and evaluation indicators should be considered according to the new context, which should contemplate knowledge, skills and attitudes of the discipline of study, as well as training for the development of technological skills.

Finally, the institution must improve and adapt the academic and administrative procedures that students have to carry out in various offices and windows of the institution, according to the needs derived from the pandemic. The institution's presence among the population should be strengthened and increased, especially in times of crisis.

Future lines of research

Some ideas that can be used for future lines of research are derived from this work:

- 1) Resilience and adaptation processes in students, teachers and their families in contexts of health crisis.
- 2) The construction of hybrid teaching-learning models according to contexts of social confinement.
- 3) Impact on physical and mental health due to covid-19 and social confinement.
- 4) Studies on the impact of covid-19 on students: failure, school dropout and terminal efficiency.
- 5) The university and its role in society to face times of crisis. Community bonding put to the test.
- 6) Impact on the training of graduates and their employment in times of crisis.



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Investigación	José Ramón Contreras de la Cruz
Recursos	No aplica
Curación de datos	No aplica





Revista Iberoamericana para la Investigación y el Desarrollo Educativo ISSN 2007 - 7467

Escritura - Preparación del borrador original	Lenin Martínez Pérez
Escritura - Revisión y edición	José Félix García Rodríguez
Visualización	José Félix García Rodríguez
Supervisión	Lenin Martínez Pérez
Administración de Proyectos	Lourdes del Carmen Pineda Celaya
Adquisición de fondos	José Félix García Rodríguez.