

PREFERENCES AND USES OF ICT DURING THE HEALTH CONTINGENCY AMONG HIGH SCHOOL STUDENTS

PREFERENCES AND USES OF ICT DURING THE HEALTH CONTINGENCY IN HIGHER LEVEL STUDENTS

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Abstract -- The present study made it possible to diagnose the preferences and uses of information and communication technologies (hereinafter ICT) in higher education students in their teaching-learning process during the health contingency of the Covid-19 pandemic in its initial phase. This study was developed under a quantitative, descriptive and non-experimental design approach, having as unit of analysis the students of the Tecnológico Nacional de México campus Instituto Tecnológico de Tlaxiaco. A universe of 1,104 students from six careers offered by the institution was considered, and comprising the January-July 2020 semester, the sample consisted of 343 students who responded to an online questionnaire. The results show that students mostly use common cell phones and laptops to develop their educational activities, about 85% of respondents do not have a private internet network at home, which is reflected as the constraint that most affects students. There are several tools that are used during distance classes, however, the three with the highest preeminence are: the use of WhatsApp, Email and the use of Google Classroom. The preferred didactic activities are: group social networks, use of digital platforms and the use of videoconferencing tools. Regarding the expenditure made by students, the complexity of the socioeconomic conditions of the subjects of study is revealed, given that 38% do not consider having spent more in the distance mode, but not less either; 36% agree with the increase in expenditure compared to the face-to-face mode; and 26% do not consider having spent more. Finally, it is worth noting the preponderance of

dissatisfaction presented by students under the distance and virtual educational modality.

Keywords: Information and communication technologies (ICT), health contingency, higher education.

Abstract -- This study addresses the preferences and uses of information and communication technologies (hereinafter ICT), in higher education students in their teaching-learning process, during the health contingency of the Covid-19 pandemic in its initial phase. This was developed under a quantitative approach, descriptive and non-experimental design, having as the unit of analysis the students of the Tecnológico Nacional de México campus Instituto Tecnológico de Tlaxiaco, a universe of 1104 students from six careers offered by the institution was considered, and which includes the semester January-July 2020, the sample consisted of 343 students who responded to an online questionnaire. The results show that students use common cell phones and laptops to a greater extent to develop their educational activities, around 85% of the respondents do not have a private internet network in their homes, which is reflected as the limitation that more affects students. There are several tools that are used during distance classes, however, the three with the greatest preeminence are: the use of WhatsApp, Email and the use of Google Classroom. The preferred didactic activities are: group social networks, use of digital platforms and the use of tools for videoconferences. Regarding the expenditure made by the students, the complexity of the socioeconomic conditions of the study subjects is glimpsed, since 38% consider that they have not spent more in the distance mode, but not less; 36%, if they agree with the increase in spending compared to the face-to-face mode; and

26%, who consider that they have not spent more. Finally, the preponderance of dissatisfaction that students present under the distance and virtual educational modality is striking.

Key words: information and communications technology, health contingency and higher education.

INTRODUCTION

Currently, the use of ICTs has an unavoidable necessity in the field of higher education, given the unprecedented scenario of social confinement promoted by the federal government, in order to slow down the spread of the Covid-19 pandemic, which has accelerated the use and application of various technological means or tools that allow the continuity of academic activities.

According to the ENDUTIH 2019, in Mexico, 65.5% of households located in urban settlements have internet access, while only 23.4% of households located in rural settlements have access [1]. This shows the difficulty of many students, mainly higher education students, who do not have access to internet networks or infrastructure.

With the arrival of the health crisis, many measures imposed by countries in Latin America and the Caribbean are related to the suspension of face-to-face classes at all levels, which has led to the deployment of distance work modalities through a series of formats and platforms [2].

In a matter of weeks, students around the world had to quickly switch from face-to-face instruction to remote learning using electronic devices available at home. In Latin America, the ability to adapt was mixed with a new learning environment. While some students transitioned smoothly to online classes, many continue to face challenges due to lack of digital readiness at home and falling family incomes [3].

On the other hand, one of the goals embodied in the 2030 Agenda for Sustainable Development has to do with ensuring inclusive, equitable, quality education and promoting lifelong learning for all [4]. However, the scenario of many schools with the health contingency hinders such objectives, and with the institutions who independently design and implement a series of improvised strategies for distance and virtual work, trying to circumvent and lessen the detrimental effects that continue to leave such a phenomenon.

The consequences of the spread of the SARS-CoV-2 virus have disrupted all areas of daily life, including education and focused on higher education, which requires the use of different ICT, however, there are other collateral problems, However, there are other collateral problems, such as the lack of access to electronic devices and networks for Internet distribution, and in the case that there is a network, it is deficient or non-existent, additionally, the lack of competencies or skills for the use of educational applications, are just some of the problems framed in the phenomenon of the digital divide.

The criteria for defining the digital divide vary from one country to another, those that have access to technological development and those that do not. The Organization for Economic Cooperation and Development (OECD) defines the concept of the digital divide in terms of access to computers and the Internet and skills in the use of these technologies.

In general terms, the digital divide is linked to the idea of having access to the Internet. This concept of digital divide goes beyond putting a computer, a cable or a technological device for access to information through internet connection, it implies processes, with this vision alliances are generated, the development of appropriable tools for the community, it is not a technological issue and lack of telecommunications as such, it is an issue of vision of society; think about the future, how are we going to connect people in a planet, in which resources are being misused? Where is the value of the use of ICTs, for whom is the value of this use given, who has access to ICTs, access to what information? [5].

The reality of many educational institutions reveals complex and multifactorial phenomena, which do not allow the establishment of unique methodologies in all higher education institutions, thus, achieving significant learning through virtual and technological tools, the discernment of such contexts will allow a more effective and productive approach, to perform a teaching support with better results.

As cited by Cabero in 2007, it is important to consider that the current problems related to the incorporation of ICTs are not technological, but rather, the problems are related to knowing what to do, how to do it, for whom and why to do it. The solution to educational problems will not come from the application of technology, but from pedagogy. We must think of pedagogical and not technological solutions [6].

The general objective of the research is to determine the preferences and uses of ICT in the students of the Technological Institute of Tlaxiaco, during the initial period of health contingency, in the year 2020. The specific objectives that give direction and at the same time as indicated by Del Cid (2011) [7] are referents for evaluation, namely: the first is to identify the ICT preferences of the students of the Technological Institute of Tlaxiaco; subsequently, to characterize the uses of ICT in particular social media used by the students of the Technological Institute of Tlaxiaco; finally, to identify the context of internet use and technological equipment in the use of different ICT applied in academic activities during the initial period of voluntary confinement.

DEVELOPMENT

ICTs constitute a set of services, networks, software and equipment integrated into an interconnected and complementary information system, and their incorporation in higher education is intended to improve the quality of educational interventions.

Therefore, its use constitutes a valuable resource for knowledge management, from a focus on innovation and change; it demands that teachers, faced with this new scenario, reorganize their work, use, transform and recreate the unlimited information available to them [8].

ICT in education can complement, enrich and transform education [9]. Of course, the necessary infrastructure, technological equipment and material and intellectual resources must be available to face the teaching-learning processes, and in this way the corresponding action scenarios are configured for such an important pedagogical task, especially in these times of health contingency.

The incorporation of such technologies in education does not automatically transform or improve educational processes, but it does substantially modify the context in which these processes take place and the relationships between their actors, and the tasks and contents of learning, thus opening the way to an eventual transformation according to the specific uses made of them [10].

ICTs have undergone explosive development in the latter part of the 20th century and the beginning of the 21st century, to the point that they have shaped what is known as the "knowledge" or "information" society. There is practically no single area of human life that has not been impacted by this development: health, finance, labor markets, communications, government, industrial productivity, etc. Knowledge is multiplying faster than ever before and is distributed virtually instantaneously. The world has become a smaller, more interconnected place.

For better and for worse, good news and bad news come first: the findings of science, new remedies and solutions, discoveries and innovations, but also economic crises, infections, new weapons and forms of control [11].

From UNESCO's perspective, a knowledge society is a society with the capacity to generate, appropriate, and use knowledge to meet the needs of its development and thus build its own future, turning the creation and transfer of knowledge into a tool of society for its own benefit [12].

Education is the bridge to access the knowledge society, built on a dynamic structure that arises from the creation of a diverse communication system that is built from technology (Mella, 2003). Therefore, in order to access such a society, it will be essential to have sufficient and pertinent technological infrastructure, but also to assume the mission of cultivating and strengthening new competencies in the subjects that will allow them to anticipate the imbalances and changes that a possible personal, social and technological dynamic or intervention would bring about in a given scenario [13].

Telecommunications infrastructure is one of the functional supports that allow habitability in different contexts, especially when, in the research field, different theoretical frameworks of contemporary societies are generated in which a digital world prevails and is conceived that concerns practically entire world population, regardless of whether it is an urban or rural environment.

Molinero and Chávez (2019) [14] refer that recent years technology has been changing in a variety of electronic devices and that students have been incorporating into their habits linked to the performance of academic activities, in that act they progressively dominate and appropriate in the use and exploitation of such resources. It is precisely what some contemporary academics and thinkers visualize as a strength for the incorporation of different ICT in most of the activities carried out in educational institutions, particularly at the higher education level and of course at other educational levels.

Students' technological competencies allow them to access Internet sources, consume, use and eventually produce more information. Knowledge does not refer to the amount of

information learned and apprehended, but in the use made of it and in the competence to acquire and transform it [15].

In the incorporation of new educational modalities, mediated by the use of technology, we can refer to distance education, , in the opinion of Vásquez, Bongianino and Sosisky (2006), can be considered as an educational strategy that allows that the factors of space and time, occupation or level of the participants do not condition the teaching-learning process.

Learning is a dialogical process, which in distance education is developed with pedagogical mediation, given by the teacher who uses technological advances to offer it. When reflecting on the distance education modality, we cannot fail to mention virtual education and, in addition, *e-learning*. The concepts of virtual education and *e-learning* have generated a lot of discussion in the educational sector. To begin with, the word virtual designates something that does not really exist, that is not present in the place, but only inside a computer. To continue, if a literal translation of the term *e-learning* is made, assuming that the e corresponds to the word *electronic* in English and *electronic* in Spanish, we refer to a compound noun, whose nucleus is the word *learning*, which can be translated as learning, thus defining *e-learning* as learning by electronic means.

Lara (2002) defines virtual education as the educational modality that raises the quality of teaching-learning, and this because it respects its flexibility or availability, i.e., it can be channeled for variable times and spaces. This modality achieves its greatest recognition with technology through asynchronous, synchronous and self-training methods [16].

In this line of virtuality, a series of interactions are configured, in which a diversity of social media are presented, a concept that, as Boyd (2008) points out, describes the tools, services and applications that enable and encourage social interaction and the creation of content by users through the network [17].

Research results

The findings of the research conducted are presented. A survey was applied in a pilot test from May 12 to 20, 2020, identifying areas of opportunity for which adjustments and corrections were made to the items and response scales. It was then applied definitively for a period of two months, specifically from May 29 to July 28, 2020.

Regarding the design of the instrument, Google forms were used, which consisted of an online questionnaire entitled "Preferences and uses of ICTs during the Covid-19 health contingency". For its application, support was required from the academic sub-direction of the institution, who facilitated contact with the group leaders of each career and who were in charge of socializing via WhatsApp social network. Additionally, it was structured with the following sections:

- General data with variables: folio, first and last name, e-mail, gender, race, and enrolled group.
- Dimension access to electronic devices and infrastructure with variables: access devices to carry out academic activities, scenario of internet use, geographical proximity in time in case of not having internet access at home, means used for travel in case of not having internet access at home, limitations for the development of didactic activities in distance and virtual classes.
- Preference and use of virtual tools dimension with variables: use of daily social media, use of virtual tools used in distance classes, preference of virtual tools.
- Dimension of digital skills for distance education with variables: perception of mastery of skills for the management of platforms and

mobile applications, preferred didactic activities using digital tools.

- Economic dimension with variable: higher expenditure on distance *versus* face-to-face classes.
- Satisfaction with variable dimension: satisfaction with the distance and virtual class modality.

Unit of analysis

The research instrument was applied to 343 students of Industrial Engineering, Computer Systems Engineering, Business Management Engineering, Civil Engineering and Bachelor's Degree in Administration, all of them offered by the Instituto Tecnológico de Tlaxiaco. It consisted of 73 items with dimensions and categories of analysis without considering general data.

The descriptive analysis provides an account of the general characteristics. Among some of the most relevant data, 58% corresponds to the female gender and 42% to the male gender, as shown in Table 1, the information on the distribution in percentages according to each of the careers.

Contingency table 1 gender * race

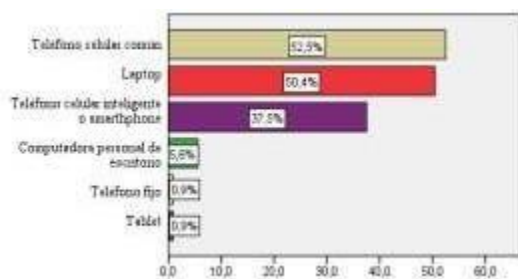
		Career					Total
		Industrial Engineering I	Computer Systems Engineering -national	Business Management Engineering -rial	Civil Engineer	B.A. in Administration	
Male	Race	1	24	27	51	42	145
	%	0,7%	16,6%	18,6%	35,2%	29,0%	100,0%
Female	Race	2	12	56	26	102	198
	%	1,0%	6,1%	28,3%	13,1%	51,5%	100,0%

Total	3	36	83	77	144	343
%	0,9%	10,5%	24,2%	22,4%	42,0%	100,0%

First, we inquired about the electronic devices that students use to carry out their educational activities, such as searching for bibliographic and documentary information, participating in videoconferences, completing homework and exercises, and taking exams, among other activities.

For the above, the highest percentage of students use cell phones as their preferred electronic device for academic activities with 52.5%, followed by laptops or laptops with 50.4%; it is noteworthy that only 5.6% of those surveyed use a desktop computer.

On the other hand, it is interesting to know that 0.9% use *tablets* to a lesser extent, and we also inquired about the use of *smartphones* and fixed telephones, the details of which are shown in Graph 1.

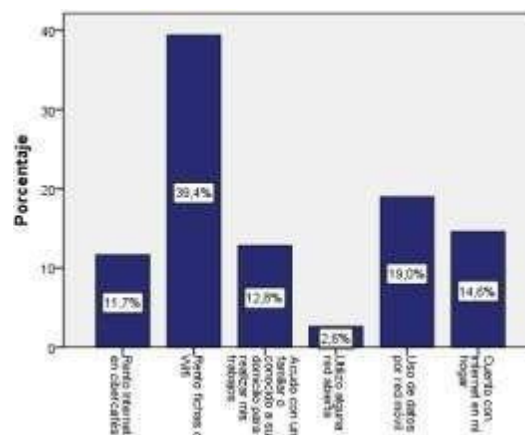


Percentage of use of electronic devices for academic activities.

Another equally important aspect to measure is the circumstances for the connectivity of an Internet network.

The results show that 39.4% of the students have to rent the internet service through tokens or prepaid wifi *tickets* for the internet service.

In another of the options presented in the survey, 11.7% go to an establishment that offers the service of computer equipment rental, which have the service or alternatively can connect their devices; one of the most striking data is that in percentage terms only 14.6% have internet in their homes, so it is assumed that 85% of students do not have a particular network in their homes, which allows them to meet their needs in terms of connectivity and therefore, it is assumed that 85% of students do not have a particular network in their homes, which allows them personalized access to meet their needs in terms of connectivity. One of the most striking data is that in percentage terms only 14.6% have Internet at home, so it is assumed that 85% of students do not have a private network at home, which allows them personalized access to meet their connectivity needs and thus develop their academic activities (see Figure 2).

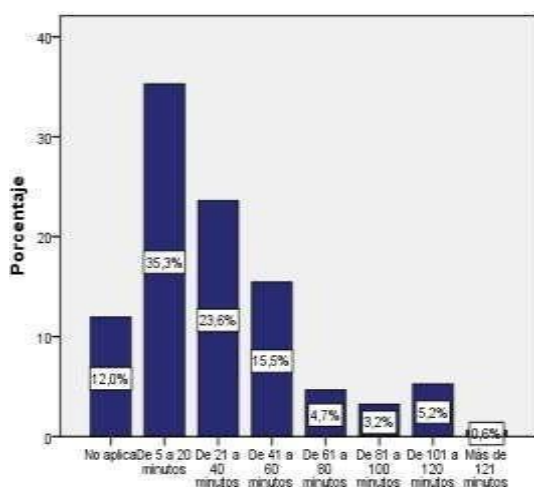


Percentage of common scenarios for Internet use.

The following is related to a variable that measures the distance in time (in minutes) used by students to access a network that allows them to meet their Internet connectivity needs. It is important to mention that, according to Graph 2, most students do not have a private Internet network at home.

In this way, the following percentages are presented: first, the most predominant response option is the distance in time of 5 to 20 minutes, with 35.3%; then, the next option in terms of choice is a percentage of 23.6%, respondents who perceive that they will travel in a period of time of 21 to 20 minutes; then, the next option in terms of choice is a percentage of 23.6%, respondents who perceive that they will travel in a period of time of 21 to 20 minutes.

40 minutes; this is followed by another group of students, who estimate a duration of 41 to 60 minutes, with a percentage of 15.5%. The following four options (61 to 80, 81 to 100, 101 to 120 and more than 121 minutes) represent values of less than 5%, which, of course, does not diminish their importance, however, they are lower values in percentage terms, as shown in Graph 3.

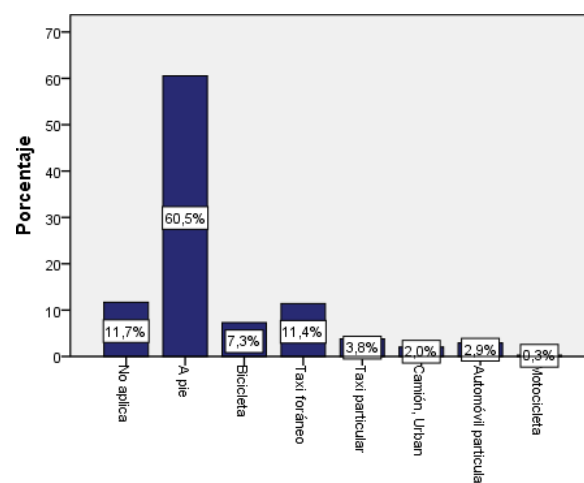


Distance in approximate time to the place or establishment that provides Internet service.

The following variable measures the means used by students who have to travel to use the Internet service, especially if we refer to the fact that most of the respondents are students who do not have Internet at home.

The percentage that stands out the most due to its preponderance is 60.5% of students who travel on foot; next, there is another group that represents 11.4% and corresponds to those subjects who use foreign cabs; another option is linked to a group of students who use bicycles as a means of transportation, making up 7.3%; consecutively, the values: private cab, private car, truck or urban-type van and motorcycle equal percentages of less than 5%, values that can be observed in Graph 4.

Graph 5 shows the frequency of use of social media and shows the virtual tools

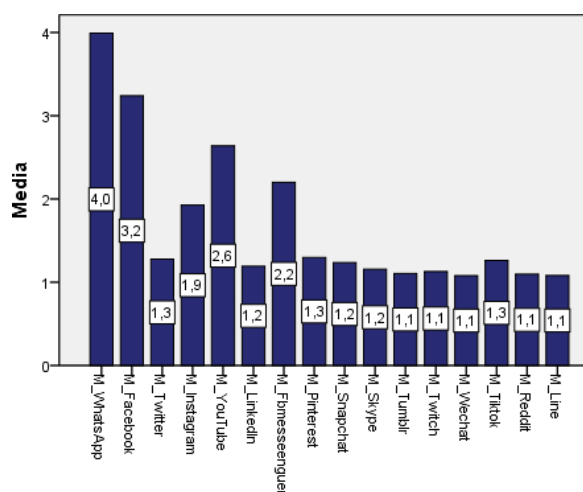


Graph 4. Most common physical means used to travel to the place or establishment offering the Internet service.

used by participants, regardless of whether they include them in educational activities, i.e., the social media they currently use and can be used for a variety of activities such as entertainment or recreation, informative, commercial, educational, among others.

In this way, for the answers we used the Likert scale type frequency with five points (minimum value 1 and maximum 5) evaluating a total of 16 social media, for the output of results we took only the arithmetic mean of the responses of each category, so we have that the most used social media are: WhatsApp with an average of 4, followed by Facebook with a value of 3.2, then YouTube having a value of 2.6, FBmessenger with 2.2, and the following social networks Twitter, Instagram, LinkedIn, Pinterest, Snapchat, Skype, Tumblr, Twitch, Wechat, Tik Tok, Reddit and Line with values below 2, indicators of lower frequency use.

The following reflection is linked to the social media used to give continuity to distance learning classes. The results show that the favorite virtual tools are the use of WhatsApp, with 91.5%, followed by the use of email with 77%;



Frequency of use of social media.

The most important tool for videoconferencing was Zoom with 46.4%; in addition, 44% of the respondents reported having used the Moodle institutional platform; Facebook, used as an educational tool, had 16.3%; while the video reproduction platform YouTube had 12.2%. The following virtual tools: Google Forms, Kahoot, Edmodo, Canva, Virtual Simulators and Telmex Videoconference obtained a percentage of less than 10% (see Graph 6).

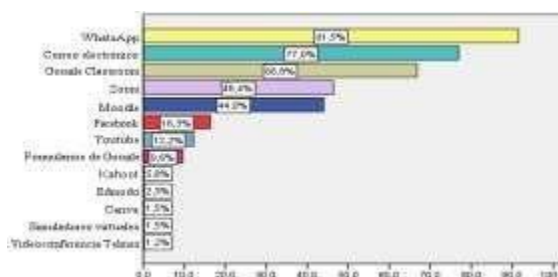


Figure 6. Virtual tools used in distance classes.

Subsequently, they were asked about their personal preferences regarding the virtual tools that they consider to have the greatest benefits, using a five-point Likert scale. For the output of the results, arithmetic mean was considered as the most common measure of

central tendency, the following results are obtained: without a doubt, the use of WhatsApp is one of the most successful communication tools for many higher education institutions (and other levels as well), it is presented as the most preferred tool with a value of 4.1; similarly, email is another tool, which is evident in the exchange of information between teachers and students, and among peers, having a value of 4; educational platforms are also important and in the survey two come to the fore in terms of preferences: the use of Google Classroom and Moodle with values of 3.5 and 3.1 respectively; the use of videoconferencing equally has a moderate importance having a value of 2.8; it is followed by the use of Facebook with a preference very similar to the previous value with 2.7; the remaining values range between 2.2 and 1.5, which strongly decreases the perception in terms of preference, and which probably may have its logic in the lack of knowledge and benefits it could offer in the pedagogical field (YouTube, Google Forms, Virtual Simulators, Edmodo, Kahoot and Canva), for details, see Graph 7.

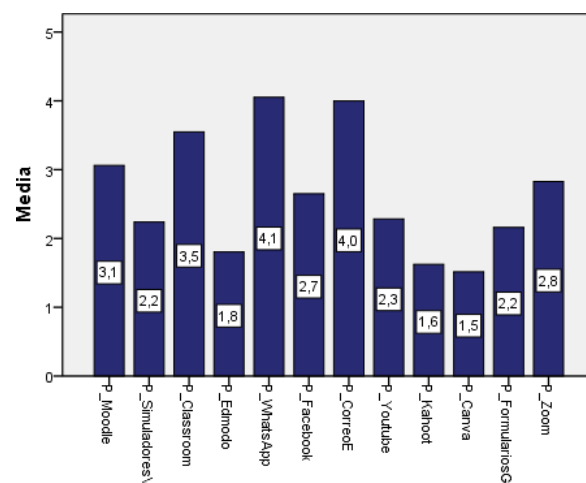


Figure 7. Preference for the use of virtual tools.

Undoubtedly, the mastery of digital skills today, and mainly in our global health context that tends to voluntary confinement, is fundamental and invaluable.

technical skills in relation to the use of digital platforms and virtual tools related to education.

The item was designed with a Likert scale with five points ranging from very poor to very good, as follows: the perception is that 40.2% is considered intermediate; another equally important result is that 36.2% is perceived as good; 14% is considered poor; 5.5% very good; and finally, 4.1% is considered very poor (see Graph 8).

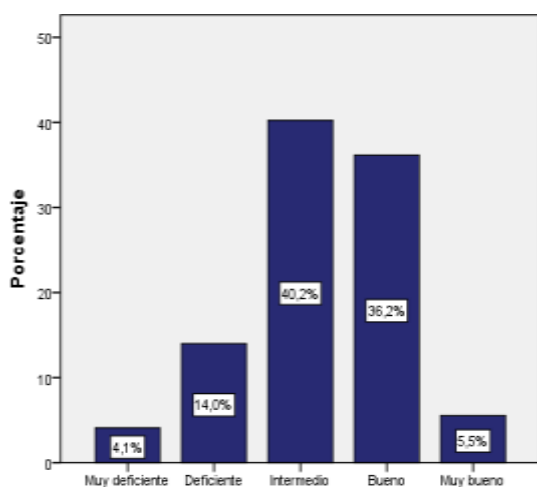


Figure 8. Perception of the mastery of technical skills for the management of mobile platforms and applications in the educational environment.

The group of responses analyzed in Graph 9 has to do with the interests or preferences of didactic activities, oriented to generate a favorable climate for teaching and learning, but from the learner's point of view.

In order of priority, 84.2% of those surveyed consider that group social networks are an activity that cannot be ignored; 64.4% believe that digital platforms are also an activity that must be permanently taken into ; then, 41.5% consider the use of videoconferencing tools to be relevant; 37.7% attribute importance to the generation of personalized videos of the company's activities.

Finally, the last two activities with the lowest percentage of preference are: the use of personalized instant messaging and telephone calls.

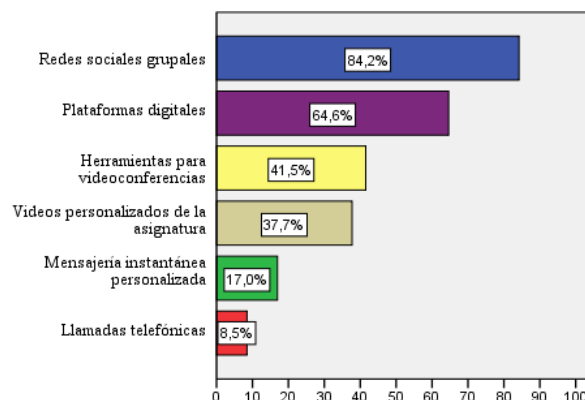
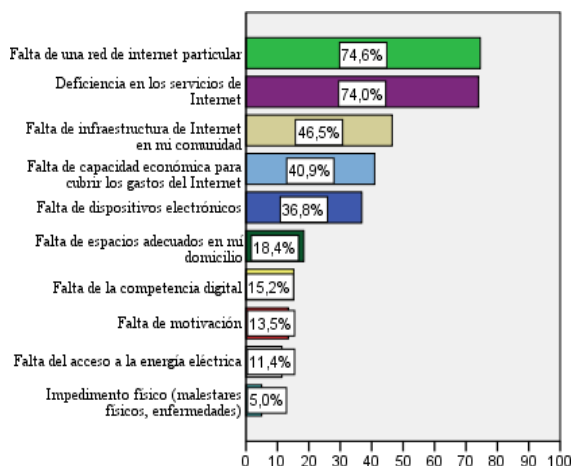


Figure 9. Preference of didactic activities.

Graph 10 below shows the factors that limit the development of didactic activities under this distance and later virtual modality.

In principle, it is evident that there is a cross-cutting problem, which afflicts many students in their daily work for the continuity of their educational activities, thus 74.6%, clearly shows the lack of a particular internet network as the main barrier; a second problem, also very closely related is the deficiency in internet services, constituting a value of 74%; also linked is the lack of infrastructure in the communities, reflected with 46.5%; the economic factor is also another problematic condition in many of the students' homes, reaching 40.9%; the lack of electronic devices at the higher education level is likewise a barrier that affects 36.8%; 18.4% of the students perceive the lack of adequate spaces in their homes; as for digital competence seen as an obstacle, it reached 15.2%; the lack of motivation corresponds to 13.5%; and finally, the lack of access to electricity and physical impediments with lower percentages in the respondents.

Another dimension that was addressed has to do with the student's economy, primarily



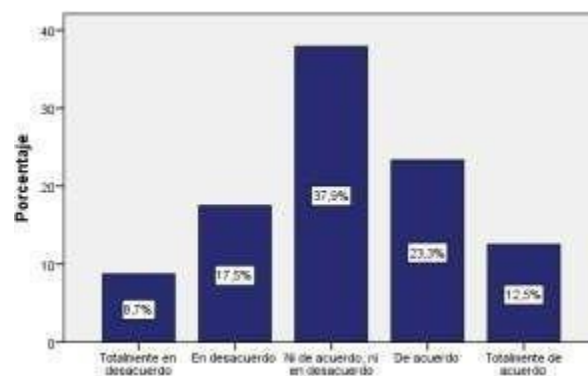
Factors limiting the development of distance learning activities.

because in previous results about 85% of the students do not have a fixed Internet network in their homes (Graph 2), and have to make trips that sometimes imply other collateral expenses, although it is also a complex phenomenon, since in face-to-face education there are other expenses, even with all that it implies, with the reagent (designed on a Likert scale and with five points in type agreement) we intend to glimpse if there is a greater expense in the student under the distance and virtual work modality, compared to the face-to-face modality.

Perceptions in percentages indicate that 37.9% neither agree nor disagree; the two groups that do consider having spent a greater amount (in options agree and totally agree) total 35.8%; the contrast at the other extreme (in options totally disagree and disagree), where it is perceived not to have spent a greater amount totaling 26.2% (see Graph 11).

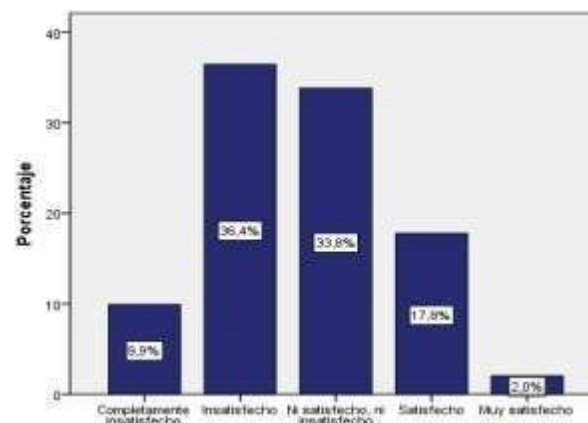
Finally, we inquired about student satisfaction during distance and virtual classes. The results obtained in a preliminary analysis, which as has been stated, correspond to the beginning of the pandemic in which the phenomenon arrived unexpectedly, and that many of the higher education institutions took the following measures to reduce the number of students who were enrolled in distance and virtual classes

decisions in accordance with their resources, infrastructure and didactic capabilities.



Graph 11. Have you spent a higher amount on distance classes compared to face-to-face classes?

Then, the item is configured on a Likert scale with five points of satisfaction type, the analysis is made with three groups and it is observed that: totaling the dissatisfaction of the students there is 46.3%; followed by 33.8% which is in a middle point that is not defined in satisfaction or dissatisfaction; then totaling the satisfaction with 19.8% of the total of the respondents (see Graph 12).



Satisfaction with the distance learning modality.

DISCUSSION AND ANALYSIS OF RESULTS

The use of ICTs is a pending process that was already visible in educational institutions, mainly at the higher education level. However, this accelerated form, together with the distancing of the

The social network brings with it risks, advantages and disadvantages, which in principle hastens the digital immersion of teachers and students, and it is precisely this same dynamic that jeopardizes the successful adoption of a digital pedagogical model [18].

As defined in the objectives, the preferences and uses of ICTs in their initial stage are addressed, which shows a panorama in relation to the technological context in which students develop their distance and virtual classes, but it is also a limitation, given that, throughout this new reality, a series of strategies have been deployed, including training for teachers and students, which again modify the use of these technologies.

In the case of the specific objectives, the following were achieved.

The first objective is to

In order to identify ICT preferences, the use of electronic devices, such as common cell phones and personal computers, is observed with greater preeminence. In contrast, the lack of devices such as desktop computers and the use of smartphones are more precarious.

The preference in the use of virtual tools with greater primacy, such as the use of WhatsApp, email and educational platforms, namely: Moodle and Google Classroom. The above, erects these media as preferred, perhaps because of their ease of use and popularity.

The research uncovers possibilities to explore in studies to diagnose the socioeconomic situation of higher education students, linked to access and enjoyment of telecommunication infrastructures, internet and electronic devices.

This will allow us to learn about the phenomenon of the digital divide in the region.

The second objective, which refers to characterizing the uses of ICT, in particular social media, it is observed that there are resources that are used in everyday life and that are used in distance education, the clearest example being the use of WhatsApp, Facebook and YouTube and that, because of

In fact, they are partially linked to the students' preferred didactic activities, such as: the use of group social networks, digital platforms and videoconferencing tools.

The last specific objective sought to identify the context of internet use and technological equipment in the use of the different ICTs, it was observed that the most common scenario is the rental of wifi chips, followed by the use of mobile network data. Similarly, it was identified that only 15% of the subjects of study have a private internet network, which denotes a precarious situation of internet equipment in the remaining 85% and that consequently there is a partial response to the dissatisfaction in distance and virtual classes presented by 46% of the students.

It is precisely this last objective that limits having a more specific vision of the student's surrounding primary environment, thus leaving unfinished studies of rural and urban habitability, considering with greater emphasis the technological infrastructure dimension of homes, particularly of higher level students.

Similarly, exploring the dissatisfaction presented by the students will make it possible to approach a concrete reality and to question the hypotheses generated by this study.

CONCLUSIONS

Undoubtedly, one of the most important aspects in higher education (and also in all levels of education where distancing measures have been considered), is the pedagogical accompaniment for teachers and students in order to generate the appropriate and pertinent scenarios for a process with educational quality.

In this accompaniment, mediation with a diversity of social media and technological tools must be such that students have access to them and can understand how they work. Many teachers and students have adopted dynamic and intuitive technologies, such as Google Classroom and Moodle virtual classrooms,

Zoom for videoconferencing, e-mail and the use of social networks, pedagogical actions that have been of great support for the continuity of academic activities, and a strategy that undoubtedly continues to be promoted from the highest levels of the educational sector, through courses, diploma courses and training in which the key players must undoubtedly be involved.

The knowledge that is built will logically depend on a series of factors; however, the facilitator's guidance and the student's ability in terms of technological knowledge will be crucial in the formation of professional competencies, which is promoted by the same professional profile of each career during the health contingency. Therefore, the importance of continuous training in the advancement of different technological tools, both in students and teachers, and that has to do with the ability of lifelong learning, i.e., learning to learn.

The instruction received by the student will be decisive, since it will allow him/her to access a knowledge society that demands a series of competencies that form the social and professional being, which is demanded by the regions of many environments eager for proposals and solutions to a diversity of problems that are faced by all mankind.

Finally, there are some successes in the pedagogical approach, such as, for example, the use of popular social networks and educational platforms to maintain communication between teacher and student, a situation that undeniably needs to be continued.

The experience should be used to improve the dialogue between teachers and students to facilitate and enhance learning.

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