






Face-to-face and distance learning at Universidad Iberoamericana Torreón

Aprendizaje presencial y a distancia en la Universidad Iberoamericana Torreón

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Abstract

As a result of the SARS-CoV2 pandemic, the incorporation of new technologies for face-to-face and distance learning was even more necessary. Technology represents a way to offer cutting-edge education responding to the needs of the current context. The main objective of this investigation, as a case study, is to analyze the acquisition of learning by students of different courses at the Universidad Iberoamericana Torreón, México in relation to face-to-face and distance education after the health crisis. The research had a quantitative approach with correlational scope. The sampling was probabilistic by conglomerates and was made up of fifth semester students from 15 courses of the university. The results show that after the pandemic, in particularly context, in the face-to-face modality, the students perceive a better planning by the teachers, which has a consequence a better use of time and the possibility of carrying out diverse activities to strengthen the understanding topics; using digital tools and group work techniques as support. On the other hand, distance classes are described as not very useful and interesting with an excessive academic load. Although the face-to-face learning experience continues to be better evaluated, it is considered important to implement strategies to increase the academic quality of distance classes, as it is a modality that will be used in all universities in the near future, using new technologies and instructional design as support, as well as training programs for teachers and students.

Keywords: learning, distance learning, face to face learning, higher education, COVID-19, instructional design.

Resumen

Como resultado de la pandemia por SARS-CoV2, la incorporación de nuevas tecnologías para la impartición de clases en modalidad presencial y a distancia se hizo aún más necesaria. La tecnología representa una manera de ofrecer educación de vanguardia respondiendo a necesidades del contexto actual. El objetivo de la investigación fue analizar, a través de un estudio de caso, la adquisición de aprendizajes por parte de estudiantes de diferentes licenciaturas de la Universidad Iberoamericana Torreón, en relación con la educación presencial y a distancia después de la crisis sanitaria. La investigación tuvo un enfoque cuantitativo con alcance correlacional. El muestreo se planteó probabilístico por conglomerados y estuvo conformado por estudiantes de quinto semestre en adelante de 15 licenciaturas. Los resultados muestran que después de la pandemia, en el contexto particular, la modalidad presencial es percibida por el estudiantado como mejor en la planeación por parte de los docentes, lo que tiene como consecuencia un mejor aprovechamiento del tiempo y la posibilidad de realizar actividades diversas para fortalecer la comprensión de las temáticas; utilizando como apoyo herramientas digitales y técnicas de trabajo grupal. Por el contrario, las clases a distancia son descritas como poco útiles e interesantes y con una carga académica excesiva. Aunque la experiencia de aprendizaje presencial sigue siendo mejor ponderada, se considera importante implementar estrategias que incrementen la calidad académica en las clases a distancia, al ser una modalidad que será utilizada en todas las universidades en un futuro cercano, utilizando como apoyo las nuevas tecnologías y un diseño instruccional adecuado, así como programas de capacitación a docentes y alumnos.

Palabras clave: aprendizaje, enseñanza a distancia, enseñanza presencial, educación superior, COVID-19, diseño instruccional.

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1. Introduction

The SARS-CoV2 pandemic caused multiple changes as of March 2020, one of the most notorious changes was in education. This situation led to the greatest global challenge for teaching-learning processes in recent decades, arising a problem for the use of technological and communication skills (ICT) by teachers and students.

Although distance education methods as an alternative to face-to-face education have been positioning themselves in recent years, the pandemic has given rise to the emergency of transferring all educational practices to virtual modalities and with a deficient mastery of technologies, due to the impossibility of maintaining physical interaction between people.

In this context, significant gaps were noted in terms of ICT, attitudes, methodologies, infrastructure, as well as physical, psychological, mental and emotional conditions, among others. These factors generated a great diversity of experiences in relation to teaching and learning online to continue with school work.

Although the return to face-to-face is imminent, virtual modalities of teaching are increasingly present in university institutions, so it is essential to understand what are the elements that directly impact the acquisition of meaningful learning for students.

1.1 Learning Process

Learning is mostly understood as a process, in which multiple elements are involved. One of them is the fact that it can take place implicitly or explicitly, as well as be governed by internal or external factors related to learning, among which stand out the environment and learning environments, which include material and human components, as well as motivation and satisfaction of needs (Montenegro, 2014). Likewise, the learning process that generates significant experiences is necessary to acquire knowledge and skills by the student in the 21st century (Sánchez et al., 2022).

The Ministry of Education of the Government of Chile (2017) establishes that learning experiences are understood as a set of knowledge, skills and attitudes, with a sense of what is learned as an experience that is part of the daily life of the student, which should be a model that allows development

and training to build tools and knowledge in different environments. Such experiences in diverse environments should be favored by various teaching resources through significant innovative experiences, where students manage their knowledge efficiently (Sandoval, 2020).

There are several pedagogical strategies that can be used to generate learning experiences that result in their being significant. One of them is the learning and service project, which combines the learning of content, ICT, competencies, and values with the tasks of community service (González, 2012). Learning for problem solving takes place, which in turn is linked to enabling students to integrate their learning and use it effectively to meet needs in different situations and contexts. We can also list other alternatives such as gamification, use of platforms, field practices, etc.

1.2 Modalities of classes

Based on the previous context, significant experiences in the different modalities of classes are a challenge to generate methodologies and practices that favor learning in university students. Aguilar et al. (2020) mention that most of the students nowadays are closely related to digital technology, which has changed their way of learning, their skills and their interests. Despite this, it should not be assumed that students can learn with technology; they know how to use it to express themselves, to interact on social networks, but they do not use it as a learning tool.

This is a big challenge in an environment where some of the students found a way to learn with technology, and others have not been able to. Having students increase all the competencies they need according to their level is one of the biggest goals when they return to the classroom.

Virtual classrooms, still designed for this purpose, currently will not be able to replace instruction in the classroom, specifically in groups where class dynamics are essential to the learning process (Contreras et al., 2022). Hybrid or semi-presential modalities are sometimes complex when trying to combine two modalities without mastering the virtuality and all the variables required (García-Peñalvo, 2021).

1.3 Distance education

According to Covarrubias (2021), distance education characterizes by being a method of collective information, which modifies the individual relationship between teachers and students as a preferred learning type, carrying out systematic work of different pedagogical methods and with the technical support to improve learning in students.

Distance learning has changed over time. In its beginnings mainly printed materials that were sent by mail were used, then the radio and television emerged; later the internet expanded it more; finally, the use of apps, which are important tool in classes (Rodríguez et al., 2021).

García (2020) explains the growth of this education, making a semantic map, and makes a memory from distance education by mail, online Learning, open education, virtual education, eLearning to Blended-learning; this must include new technologies such as remote education and hybrid education. Now, online education has grown very fast in both formal and informal environments, relying on various platforms such as YouTube, Facebook, WhatsApp, etc.; as well as tablets, computers, smartphones, cell phones, laptops, among others, which involve a new educational environment in the teaching-learning process (Mishra et al., 2020). Learning through technology and online education cannot be rejected because it is anchored by technological innovation in the educational field (Chaves, 2017; García et al., 2017).

Therefore, the way of education changed in many ways, from common mail to multimedia-based tools, where the flow of information and communication between teachers and students has multiple directions, thus causing gaps in interactive learning and shortages in the generation of meaningful experiences (Montoya et al., 2019).

As an example, many countries have what is called Mobile Learning (m-learning), which consists of teaching using mobile phones where students can access the platforms from anywhere in the world and at any time (Gupta et al., 2021). The existence of a large amount of information leads to increase the skills of research, selection and organization, as well as to increase autonomy and practice in the use of critical thinking. This requires that students are more responsible for their own learning and a new

way of relating to their teachers (Aguilar-Romero & Gámez-Suazo, 2023).

Continuing with the paradigm of meaningful experience-based learning, the focus of learning is increasingly moving in the direction of the student, who must learn to learn and that means increasing skills. In a meaningful learning environment, the student structures their learning by selecting the content and learning from the activities they perform.

For this, the teacher must facilitate his/her role as companion and counselor. Additionally, technology also allows individual and social construction at the same time, because it relates the student to a learning community. Another important reason is that it allows to regulate the working time. As long as the materials are on the network, students will be able to access them at any time they want, according to their work system.

The information received will force students to reelaborate and categorize the previous data, forcing them to use the cognitive potential. They are also allowed to investigate by various means, increasing the chances of discovering and finding the motivation they need. The latter is in line with Cantorín (2014), who argues that there is a great connection between educational technology and the follow-up of the meaningful learning approach.

1.4 Face-to-face learning

Learning has evolved over time. It is in the modern age that schooling has raised questions in relation to the teaching-learning process: Who learns? How much do you learn? How does learning happen? Where do you learn? These questions are answered by disciplines such as psychology, sociology, pedagogy, and even philosophy. Many theories emerge from the studies carried out by each discipline, which aim to determine learning. For Alvarado et al. (2022), the face-to-face model is personalized, and it marks a work rhythm of the teacher and there is more contact with the teacher and colleagues, thus preventing isolation.

The teaching-learning process in face-to-face environments provokes to know the diverse realities of educational subjects. Aguilar (2020) considers that disorders that disrupt learning lead to possible motor, mental, maturation, emotional, sociocultural causes that harm students. On the other hand, in a

face-to-face environment, it is considered that the learning process is appropriate to the student's age and that this process must be mediated by some proposed activities in the classroom and the evaluation on the implementation of these activities (Papalia et al., 2012). Likewise, it has been proven that face-to-face education generates significant experiences, developing comprehensive work, skills and learning in students of different levels (Ojeda-Beltrán et al., 2020; Dasso and Evaristo, 2020).

Another important point is the ability to communicate between teacher and student, so communication improves cooperative work. As the students interact, there is a climate of trust and security that improves the communicative process, in which language confusion must be handled between the sender and receiver, clarifying the main ideas of the subject (Capdet, 2011).

Language in face-to-face areas leads to human contact, not precisely through words but also through bodily expressions, expressed by gestures, movements or poses. Also, it is correct to consider that socialization and social diversity accept the development of social and moral values in the student.

Considering the above, it is necessary to know how the learning achieved and acquired at Universidad Iberoamericana Torreón in the distance modality is evaluated, in contrast to the face-to-face classes.

Finally, it is a priority to identify the factors that influence to promote experiences that allow meaningful learning in the aforementioned modalities, which will enable educational agents to devise and implement strategies that improve learning experiences in the environment, focused on new horizons in the educational field. Therefore, the aim of this research is to evaluate the learning achieved by students of different degrees in relation to face-to-face and distance education after the pandemic, as a strategy to propose improvements to make the teaching-learning processes more efficient towards the fulfillment of the educational quality of the Universidad Iberoamericana Torreón.

2. Methodology

2.1 Population and sample

The research project had a quantitative approach with a correlational or explanatory scope. The application profile of the assessment instru-

ment was the universe of Universidad Iberoamericana Torreón, an academic institution in northern Mexico belonging to the Jesuit University System. The chosen population was 1473 undergraduate students according to the enrollment period August-December 2022.

The sample consisted of students from fifth semester onwards from the following degrees: psychology, law, nutrition, communication, business administration, foreign trade, public accounting, hospitality, marketing, industrial engineering, civil engineering, environmental engineering, architecture and industrial design. Students from those semesters were selected considering they had the experience of having taken classes in the face-to-face and distance modalities at the university during the pandemic. New students were not considered in the study, nor those who were in academic exchange.

Probabilistic sampling was carried out in a random, proportional and stratified way in the three departments that the University is organized (Bracho, 2022). The answers were collected in person and by a QR code that led to a Google form.

2.2 Assessment tool

Nominal variables were gender, career and semester. While for all the items aimed at measuring the central aspects of research, two broad categories were taken: 1) learning and development of competences and 2) modalities of classes. In the first category, aspects were measured on subject domains, research processes, leadership, academic activities, teamwork, etc. For the second category, students were questioned in relation to the usefulness of projects and activities, interpersonal interaction and communication, use of time and rhythm of the subject, teaching resources, infrastructure (internet) among others. Both categories were measured with 69 items in the ratio scale. The objective of the instrument was to evaluate the learning acquired in face-to-face and virtual classes after the pandemic.

The instrument was tested for validity through the evaluation of three experts and reliability was obtained through two pilots, where a final Cronbach alpha of 0.967 was obtained (Hernández and Mendoza, 2018).

2.3 Statistical Analyzes

As a first step, the Kolmogorov-Smirnov normality test was determined to verify the normal distribution of the studied variables. Subsequently, the factor analysis was performed prior to the Kaiser-Meyer-Olkin (KMO) test and the Bartlett sphericity test. The factor test was carried out with the main component extraction method, selecting a varimax and maximum of interactions of 250, a suppression coefficient of absolute values of 0.70 and a $\alpha=.95$. Finally, the Spearman correlation was analyzed among the variables that measure the aspects most related to the research objectives, with a significance level of 0.05. Correlations were made generally with all responses and by department. Statisticians were performed in the SPSS 28 program.

3. Results

According to the diagnosis made, 58.70% of the respondents were female, 40.89% male and 0.40% preferred not to indicate their gender. As for the ratio of students by departments that make up the university, the Humanities department represented 32.39% of the total answers, the Business department 36.84% and the Department of Engineering, Architecture and Design (DIAD), 30.36% of the students surveyed. Regarding the distribution of respondents by career, the most student participation were law (12.3%), psychology (11.3%), public accounting (10.9%) and business administration (10.3%), followed by industrial design (9.3%), foreign trade (8.9%) and industrial engineering (7.3%).

In the first statistician performed, in the factorial analysis, two main factors were found in the statistical test: 1) transcendental characteristics in distance classes and 2) important characteristics in face-to-face classes.

In relation to the factor related to the transcendental characteristics in distance classes, the variables with the greatest significance indicate that the students of Universidad Iberoamericana Torreón who participated in the research, perform teamwork very often, while showing a

deficiency in leadership activities, and their participation in debate and experiences outside the classroom was scarce. Likewise, distance learning was not very interesting to them, which is suggested to be influenced by the perception that they do not obtain a good learning with class activities, which in turn can be influenced by the factor that little diverse resources are used for their teaching. They also point out that the projects are not proportional to the learning obtained and consider them not to be too frequent. Meanwhile, the opinion that these types of classes do not have a good pace in terms of academic load, is an element that may be influencing equally in their unfavorable perception of distance classes. This is also due to the misuse of ICT by teachers and students to ensure learning in the subjects.

Regarding the factor related to the important characteristics in the face-to-face classes, students who are studying the second half of their career in most of the Ibero Torreón's degrees, consider that their face-to-face classes have a good planning, therefore, they use their time wisely, performing activities from which they obtain a good learning and their projects are proportional to the level of learning obtained. In this modality, students often perform teamwork. As for the use of technology, which is related to the development of digital competence, it denotes having a highly significant presence as a resource for the conduction of multiple activities, such as Internet queries, exhibitions using electronic resources, as well as tasks and activities in electronic applications. In addition, they demonstrate a good sense of commitment and responsibility towards their studies by delivering all their tasks and projects with high frequency, which is related to the development of the competence of discernment and responsibility. In this same context, they consider that such classes are the ones that are best planned and in which the time of the session is most used, as well as in which there is a better environment and communication with the teacher.

Conversely, the results of the correlational analysis are described in Figure 1. These data indicate that the respondents from the different departments of the university continue to favor the face-to-face modality in relation to the main elements studied on learning and competency development. Even when associated with the use of technology, as seen with the use of electronic resources for exhibitions and various activities in this modality.

Likewise, the conduction of projects and activities that they consider useful is a motivation for them to pay attention in class, maintain a positive attitude towards their subjects and in turn deliver them in their entirety, since it allows them to have meaningful learning, coupled with good communication with the teacher and good planning of class sessions.

In addition, the enjoyment of classes in the face-to-face denotes being related to the use of time, interaction with peers and the use of technological resources, which highlights the role of ICTs today as an essential tool in the academic teaching-learning processes in any type of class. Among the multiple tasks they facilitate, the students participating in the research highlight their usefulness for problem solving.

Regarding distance learning, the students surveyed emphasize that the good organization in the development of the subjects and the resources used to teach them are essential aspects for them to be able to carry out the totality of the deliveries of projects and tasks.

Regarding the correlations by departments, the humanities degrees (nutrition, law, psychology and communication) have the most independent correlations, so that the students of this department consider significant a greater number of factors involved in their learning processes and development of competences in relation to the different modalities of classes.

In this sense, for the resolution of problems, students of humanities consider useful in the face-to-face modality the interaction with

peers, as well as the performance of activities that allow them to obtain good learning and projects that they perceive useful. Meanwhile, in the distance modality, the resources used for the teaching of the subject show to be a relevant factor for the solution of problems and for the development of projects.

In the face-to-face mode, the use of electronic resources helps them maintain interest in the class. At the same time, in the distance mode, the use of a friendly platform allows them to maintain attention in the class. More specifically, the resources used in this modality are fundamental for the integration of learning. In addition, in this modality, communication with the teacher becomes more relevant to have a positive attitude towards the classes.

On the other hand, the business departments (business administration, public accounting, marketing, foreign trade and hospitality) and DIAD (civil engineering, environmental engineering, industrial engineering, architecture and industrial design) share some elements that are related to each other, such as the use of electronic resources in a face-to-face class for the delivery of all projects and tasks, which is understood in relation to the profile of the careers they encompass.

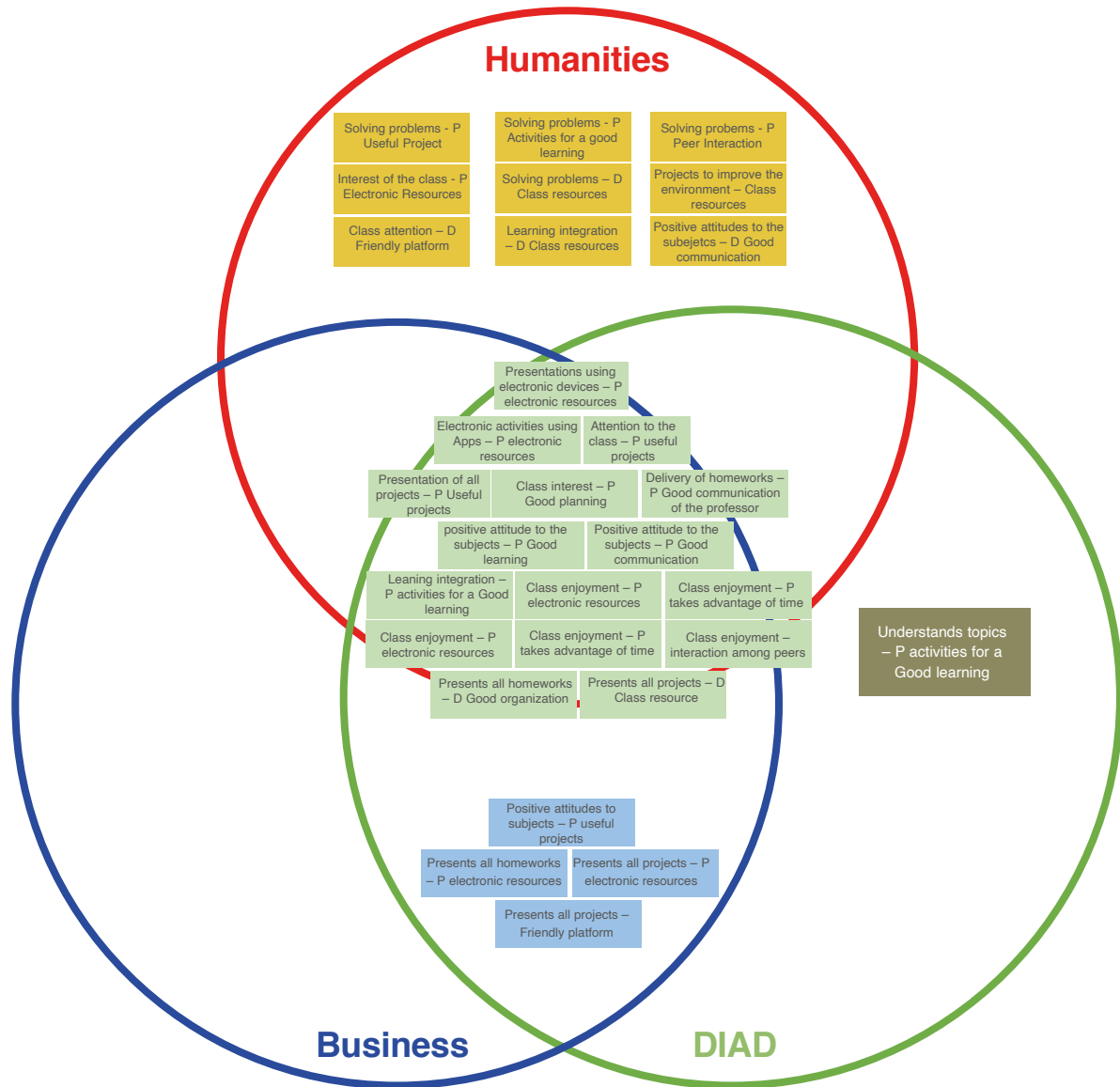
The DIAD department characterizes by conducting face-to-face activities, which indicates that, despite technological advances, students of engineering, architecture and design careers consider face-to-face interaction important for the quality of their learning, an aspect that is understood in relation to the practical nature of the activities of such careers.

On the other hand, it is noteworthy that the results do not show correlated variables characteristic only related to the business department. This suggests that the profile of students belonging to this department tends to be neutral in terms of the significance of aspects related to their learning processes in relation to the modalities of classes. Therefore, it can be inferred that

such neutrality would imply a greater willingness to study subjects in alternative modalities, unlike students of humanities and DIAD, who

did show more tendency to educational use in this modality.

Figure 1. Learning in the different classroom modalities of the three departments of Universidad Iberoamericana Torreón



*DIAD: Department of Engineering, Architecture and Design. Q: Face-to-face. D: Distance mode.

4. Discussion and conclusions

Students surveyed at Universidad Iberoamericana Torreón tend to prefer face-to-face classes unlike virtual modality following the COVID-

19 pandemic. In relation to face-to-face classes, the students of various careers very often perform teamwork. In this regard, Swanson and Swanson (2019) found that university students enjoy performing such activity, highlighting the factor that teams are

made up of students from other classes. However, the students consider that doing teamwork is not very compatible with the completely online class format.

As for the use of technology, which is related to the development of digital competence, it denotes having a highly significant presence as a resource for conducting multiple activities, such as Internet research, exhibitions using electronic resources, as well as tasks and activities in electronic applications. In this sense, the students participating in the research seem to align with the profile that Aguilar & Chamba (2019) mention of the students of the 21st century, whom they call “technological scholars”. However, the presence of technology for the conduction of the *academic activities described contradicts to Aguilar et al. (2020)* who state that the new generation of students does not precisely use technology as a learning tool. Urcid (2023) refers to the idea that technology must be integrated in current educational contexts, to mention that “it is inevitable to incorporate mobile devices as work tools in classes” and establishes that when used appropriately, these can be allies of learning.

Continuing with the face-to-face modality, respondents consider themselves to be in the presence when they tend to pay more attention to their classes, as they find them interesting. At the same time, the activities they carry out in this modality are the ones that most help them to acquire good learning and experiences. In addition, the projects of the face-to-face classes find a greater usefulness. This is similar to what Ruiz et al. (2020) points out, where they mention that the importance in the implementation of digitalization and ICT favor professional development and the improvement of teaching and learning processes.

Likewise, the participants of the research consider that such classes are the ones that are better planned and in which the time of the session is used the most, as well as in which there is a better environment and communication with the teacher. In this sense, de Oliveira et al. (2020) mentioned that virtual classrooms can hardly replace the teaching dynamics in the classroom. Although there is a better infrastructure in the classroom the group dynamics is fundamental to facilitate the development of competences, which could be aimed at verifying the answers of the students participating in the research.

In other sense, in remote classes, the students surveyed report participating infrequently in leadership activities and carrying out projects to improve the environment, as well as providing little support to entrepreneurship and sustainable development projects. Likewise, they show greater difficulty to focus on the class, have less interest, in addition to less interaction with their peers, which is confirmed by Ferri et al. (2020). Such factors, identified as weak, are the ones that students value best as elements that favor the acquisition of learning in various research (Swanson & Swanson, 2019; Chávez et al., 2021; Taveras-Pichardo et al., 2021).

Likewise, the opinion of post-pandemic virtuality indicates an excessive academic load, this is an element that may be influencing the unfavorable perception of distance modality, a factor that is consistent with the findings obtained by Taveras-Pichardo et al. (2021).

In relation to the above, constant feedback and good communication with the teacher in the distance classes, are fundamental aspects so that students can have a good experience as documented by Karkar-Esperat (2018). In this regard, the students participating in this research indicate that these aspects do not occur to a good extent in such classes either, influencing their unfavorable opinion on distance modality.

In summary, from the results obtained through the statistical analysis of the different tests used, a clear orientation to prefer face-to-face modality after the Covid-19 pandemic was found (Berumen et al., 2023). Presence allows to have a good use of their classes for the acquisition of significant learning and the development of professional competences. On the contrary, in the distance modality, they point out significant areas of opportunity for achieving the same aspects (Núñez, 2023).

Also, from the correlations found, the use of ICT in the face-to-face modality for the conduction of activities, tasks and projects becomes relevant, especially for students of the departments of business and engineering, architecture and design; in the case of humanities, they are a valuable element to maintain the interest in the class (Martínez, 2022).

However, it is highlighted that despite technological advances, students of careers such as engineering, architecture and design consider important face-to-face to obtain quality learning (De Oliveira

et al., 2020), aspect that is understood in relation to the practical nature of the activities of such careers. While, regarding distance learning, the factors of a friendly educational platform, the resources used for the teaching of the subject and communication with the teacher are essential for integrating learning.

Likewise, it is emphasized that the business department denotes a neutral profile in its students, which would imply greater susceptibility to study subjects in the various modalities of classes, not preferring in any significant way any of them.

From the above, it is important to implement educational strategies in relation to the use of ICT to increase the quality in distance classes, through training professors on the didactic-pedagogical topic, with emphasis on instructional design, clear and precise guidelines in order to improve meaningful experiences in students and that favors the learning process and development of competences (Murillo-Díaz et al., 2023). These aspects are in line with Albrahim (2020), who mentions six categories in which professors must be trained to provide online classes effectively, which refer to skills in the following areas: pedagogical, content, design, technological, management and social and communicative. In relation to this context, Félix et al. (2023) state that “we are (re)learning to teach and to learn, including the human and the technological”.

In this same context, it is also relevant to guide students who take classes in this modality to improve their study strategies (Aguilar-Romero & Gámez-Suazo, 2023), as well as to change the perspective of online classes generated by the pandemic. Therefore, the challenge of the University is not the infrastructure or technology, but to find the pedagogical mechanism in professors to efficiently provide distance learning, which is consistent with what was mentioned by García-Morales et al. (2021) about the importance for universities to pay special attention to the digitalization of learning processes, offering training to both teachers and students and even the administrative staff of these institutions.

References

- Aguilar, F. R. & Chamba, A. P. (2019). Reflexiones sobre la filosofía de la tecnología en los procesos educativos. *Revista Conrado*, 15(70), 109-119. <https://bit.ly/42gq5xP>
- Aguilar, F. R. (2020). Del aprendizaje en escenarios presenciales al aprendizaje virtual en tiempos de pandemia. *Estudios pedagógicos (Valdivia)*, 46(3), 213-223. <http://dx.doi.org/10.4067/S0718-07052020000300213>
- Aguilar, J., Alcántara, A., Álvarez, F., Amador, R. Amador, C., Bravo, M.T., Carbajosa, D., ... Zabalgoitia, M. (2020). *Educación y pandemia. Una visión académica*. Instituto de Investigaciones sobre la Universidad y la Educación. Universidad Nacional Autónoma de México. <https://bit.ly/3OMtFge>
- Aguilar-Romero, M. J. & Gámez-Suazo, I. Y. (2023). Percepción del regreso a modalidad presencial en estudiantes de Ciencias Económicas: carrera de Informática Administrativa. *Revista Universidad y Sociedad*, 15(1), 636-644. <https://bit.ly/43Coxzt>
- Albrahim, F. (2020). Online Teaching Skills and Competencies. *The Turkish Online Journal of Educational Technology*, 19(1), 9-20. <https://bit.ly/3Tm5ebD>
- Alvarado, P., Bravo, O. M., García, A. E., Poveda, G. H. & Navarrete, G. (2022). Educación virtual vs educación presencial ventajas y desventajas para los estudiantes en universidades públicas: Caso UG. *Polo del Conocimiento*, 7(7), 843-860. <https://bit.ly/41ifgMU>
- Berumen, E., Villegas, H. G. & Ávila, S. (2023). Implicaciones de la educación virtual durante la pandemia covid-19: una encuesta a estudiantes del Tecnológico Nacional de México. *RIDE Revista Iberoamericana Para la Investigación y el Desarrollo Educativo*, 13(26). 3445 <https://doi.org/10.23913/ride.v13i26.1404>
- Bracho, L. (2022). Indicadores de confort relacionados con el desempeño académico de los estudiantes universitarios. *Telos: Revista de Estudios Interdisciplinarios en Ciencias Sociales*, 24(1), 123-138 <https://doi.org/doi.org/10.36390/telos241.08>
- Cantorín, R. M. (2014). El desempeño docente en Matemática y su significado en el proceso escolar de la región Junín PRONAFAP 2012-2013. *Horizonte de la ciencia*, 4(6), 59-66. <https://bit.ly/3N99BTQ>
- Capdet, D. (2011). *Conectivismo y Aprendizaje informal: Análisis desde el punto de vista de una sociedad en proceso de transformación*. <https://bit.ly/3OS2yjG>
- Chaves Torres, A. N. (2017). La educación a distancia como respuesta a las necesidades educativas del siglo XXI. *Academia y Virtualidad*, 10(1), 23-41 <https://doi.org/10.18359/ravi.2241>
- Chávez, M., Rivera, V. & Haro, G. (2021). Percepción de la educación virtual en instituciones de educa-

- ción superior 2020-2020. *Revista de Investigación Enlace Universitario*, 20(1), 08-21.
<http://doi.org/10.33789/enlace.20.1.81>
- Contreras, C. P., Pérez, M. T., Picazo, D. & Pérez, D. (2022). En tiempos de pandemia: de la educación presencial al entorno virtual y de regreso. *Ciencia Latina Revista Científica Multidisciplinar*, 6(1), 1821-1834.
https://doi.org/10.37811/cl_rcm.v6i1.1612
- Covarrubias, L. Y. (2021). Educación a distancia: transformación de los aprendizajes. *Telos: revista de Estudios Interdisciplinarios en Ciencias Sociales*, 23 (1), 150-160.
<https://doi.org/10.36390/telos231.12>
- Dasso, A. & Evaristo, I. (2020). Análisis de resultados del aprendizaje presencial y aprendizaje semipresencial en dos cursos universitarios. *Educación*, 29(57), 27-42.
<http://dx.doi.org/10.18800/educacion.202002.002>
- De Oliveira, M., de Oliveira-Albergarias, R. & Correia, A. (2020). Will Virtual Replace Classroom Teaching? Lessons from Virtual Classes via Zoom in the Times of COVID-19. *Journal of Advances in Education and Philosophy*, 04(05), 208-213.
<https://doi.org/10.36348/jaep.2020.v04i05.004>
- Félix, L., Carrascal, S., Melaré, D. & Valente, P. (2023). Formación Profesional a distancia para la empleabilidad en España, Portugal y República Dominicana. *Alteridad*, 18(2), 234-247.
<https://doi.org/10.17163/alt.v18n2.2023.07>
- Ferri, F., Grifoni P. & Guzzo T (2020). Online learning and emergency remote teaching: opportunities and challenges in emergency situations. *Societies*, 10(4), 86. <https://doi.org/10.3390/soc10040086>
- García, L. (2020). Bosque semántico: ¿educación/enseñanza/aprendizaje a distancia, virtual, en línea, digital, eLearning...? RIED. *Revista Iberoamericana de Educación a Distancia*, 23(1), 9-28.
<https://doi.org/10.5944/ried.23.1.25495>
- García, M. D., Reyes, J. & Godínez, G. (2017). Las Tic en la educación superior, innovaciones y retos. *RICSH Revista Iberoamericana de las Ciencias Sociales y Humanísticas*, 6(12), 299-316.
<https://doi.org/10.23913/ricsh.v6i12.135>
- García-Morales, V., Garrido-Moreno, A. & Martín-Rojas, R. (2021). The transformation of higher education after the COVID disruption: emerging challenges in an online learning scenario. *Front. Psychol*, 12.
<https://doi.org/10.3389/fpsyg.2021.616059>
- García-Peñalvo, F. J. (2021). *Redefiniendo las modalidades docentes a raíz de la crisis por la Covid-19*. Sello Editorial UNAD.
<https://doi.org/10.22490/9789586518260.4.4>
- González, C. G. (2012). Aprender de la experiencia y competencias: aprendizaje y servicio. In *Estilos de aprendizaje. Investigaciones y experiencias: [V Congreso Mundial de Estilos de Aprendizaje]*. Santander, 27, 28 y 29 de junio de 2012. Universidad de Cantabria.
<https://bit.ly/3NcHNyg>
- Gupta, Y., Mujeeb, M. & Agarwal, S. (2021). Exploring factors influencing mobile learning in Higher Education-A Systematic Review. *International Journal of Interactive Mobile Technologies*, 15(12), 140-157.
<https://doi.org/10.3991/ijim.v15i12.22503>
- Hernández Sampieri, R. & Mendoza Torres, C. P. (2018). *Metodología de la investigación. Las rutas cuantitativas, cualitativas y mixtas*. 1ra. Edición. McGraw Hill.
- Karkar-Esperat, T. (2018). International Graduate students' challenges and learning experiences in online classes. *Journal of International Students*, 8(4), 1722-1735.
<https://doi.org/10.32674/jis.v8i4.227>
- Martínez, M. I. (2022). Towards the virtualization of university teaching: A methodological change based on three scenarios. *International Humanities Review* 15(3), 1-16.
<https://doi.org/10.37467/revhuman.v11.4238>
- Ministerio de Educación. (2017). *Experiencias de aprendizaje: Ciencias Naturales*. Gobierno de Chile.
<https://bit.ly/43ns4Ss>
- Mishra, L., Gupta, T. & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1, 100012.
<https://doi.org/10.1016/j.ijedro.2020.100012>
- Montoya, L. A., Parra, M. R., Lescay, M., Cabello, O. A. & Coloma, G. M. (2019). Pedagogical theories that support learning with the use of Information and communication technologies. *Revista Información Científica*, 98(2), 241-255
<https://bit.ly/43CFfII>
- Montenegro, I. A. (2014). *Aprendizaje y desarrollo de competencias*. Magisterio Editorial.
- Murillo-Díaz, A., Armendáriz-Núñez, E. & Ascencio-Baca, G. (2023). La transición de la modalidad presencial a la enseñanza remota de emergencia. Caso de estudio: Docentes de la Universidad Autónoma de Chihuahua. *Revista de Investigación y Evaluación Educativa*, 10(1), 6-27.
<https://doi.org/10.47554/revie.vol10.num1.2023.pp6-27>

- Núñez, G. (2023). Impact of virtual education on the student learning process. *HUMAN REVIEW. International Humanities Review*, 17(4), 1-10. <https://doi.org/10.37467/revhuman.v12.4751>
- Ojeda-Beltrán, A., Ortega-Álvarez, D. D. & Boom-Cárcamo, E. A. (2020). Análisis de la percepción de estudiantes presenciales acerca de clases virtuales como respuesta a la crisis del Covid-19. *Espacios*, 41(42), 81-92. <https://bit.ly/3MOCmD>
- Papalia, D., Feldman, R. & Martorell, G. (2012). *Desarrollo Humano*. McGraw Hill.
- Rodríguez, F., Concepción, M.R., Blanco, Mariño, D., Coloma, O., Portilla, Y. & Velázquez, R. (2021). Innovación en educación y tic con enfoque de competencias. Un reto curricular, didáctico y tecnológico de la formación profesional universitaria cubana. *Revista Tecnología Educativa*, 6(1), 53-67. <https://bit.ly/3RjNWth>
- Ruiz, A., Medina, M. C., Pérez, E. & Medina, A. (2020). University teachers' training: The Digital Competence. *Pixel-Bit, Revista de Medios y Educación*, (58), 181-216. <http://dx.doi.org/10.12795/pixelbit.74676>
- Sánchez, Y. V., Quiñonez, M. O., Cajamarca, M. F. & Zambrano, M. A. (2022). Habilidades relevantes del siglo XXI para desarrollar en los estudiantes de secundaria un aprendizaje significativo: Una experiencia docente post pandemia. *Polo del Conocimiento: Revista científico-profesional*, 7(4), 1402-1423. <https://bit.ly/3to06ZU>
- Sandoval, C. (2020). La educación en tiempo del Covid-19 Herramientas TIC: El nuevo rol docente en el fortalecimiento del proceso enseñanza aprendizaje de las prácticas educativa innovadoras. *Revista Tecnológica Educativa Docentes 2.0*, 9(2), 24-31. <https://doi.org/10.37843/rtd.v9i2.138>
- Swanson, A. & Swanson, S. (2019). Comparing course delivery methods, what do students prefer and what works. *Association Supporting Computer Users in Education. Proceedings*, 70-79 <https://bit.ly/3N97109>
- Taveras-Pichardo, L. C., Paz-López, A., Silvestre, E., Montes-Miranda, A. & Figueroa-Gutiérrez, V. (2021). Satisfacción de los estudiantes universitarios con las clases virtuales adoptadas en el marco de la pandemia por COVID-19. *EDMETIC*, 10(2), 139-162. <https://doi.org/10.21071/edmetic.v10i2.12908>
- Urcid, R. (2023). Uso de dispositivos móviles en el aula para dinamizar e incentivar el aprendizaje. Estudio de caso con alumnado de pregrado. *Alteridad*, 18(2), 211-220. <https://doi.org/10.17163/alt.v18n2.2023.05>
- Gutiérrez-Martín, A., Pinedo-González, R. & Gil-Puente, C. (2022). ICT and Media competencies of teachers. Convergence towards an integrated MIL-ICT model. [Competencias TIC y mediáticas del profesorado. Convergencia hacia un modelo integrado AMI-TIC]. *Comunicar*, 70, 21-33. <https://doi.org/10.3916/C70-2022-02>
- Ministerio de Industria, Comercio & PYMES. (2023). *Informe de Perspectivas Económicas 2022-2023*. Gobierno de la República Dominicana. <https://bit.ly/45U9rqO>
- IEFP. (2023). A Instituição. Instituto do Emprego e Formação Profissional. <https://bit.ly/45SdBj9>
- INFOTEP. (2021). Historia. <https://bit.ly/45RL0dD>
- Loayza-Maturrano, E. F. (2020). La investigación cualitativa en Ciencias Humanas y Educación. Criterios para elaborar artículos científicos. *Educare et Comunicare*, 8(2), 56-66. <https://doi.org/10.35383/educare.v8i2.536>
- Manrique-Losada, B., Zapata Cárdenas, M. I. & Arango Vásquez, S. I. (2020). Entorno virtual para cocrear recursos educativos digitales en la educación superior. *Campus Virtuales*, 9(1), 101-112. <https://bit.ly/3qreb76>
- Moreno Márquez, A. M. (2021). Género, Formación Profesional e inserción laboral. *Asparkia: Investigación feminista*, (38), 83-104. <https://bit.ly/3P2lnAO>
- Martín-Párraga L., Palacios-Rodríguez, A. y Gallego-Pérez, Ó. (2022). ¿Jugamos o gamificamos? Evaluación de una experiencia formativa sobre gamificación para la mejora de las competencias digitales del profesorado universitario. *Alteridad*, (17)1, 36-49. <https://doi.org/10.17163/alt.v17n1.2022.03>
- Ministerio de Educación y Formación Profesional. (2022). Datos y cifras. Curso Escolar 2022-2023. Secretaría General Técnica, Madrid.
- Mira, J. J., Pérez-Jover, V., Lorenzo, S., Aranaz, J. & Vitaller, J. (2004). La investigación cualitativa: una alternativa también válida. *Atención primaria*, 34(4), 161-166. [https://doi.org/10.1016/S0212-6567\(04\)78902-7](https://doi.org/10.1016/S0212-6567(04)78902-7)
- Moraes, D. (2001). *O concreto e o virtual: mídia, cultura e tecnologia*. DP&A.
- National Research Council. (2012). *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21 st Century*. Washington, The National Academies Press.
- Nieto Ortiz, J., Roa González, J. & Millán-Gutiérrez, M. Á. (2022). *Las competencias en la Formación Profesional, un lenguaje común entre la formación y el empleo*. Dykinson. <https://bit.ly/3qywWWv>

- Partnership for 21st Century Skills. (2006). *A state leader's action guide to 21st century skills: A new vision for education*. P21 Century Skills.
- Pereira, A., Mendes, A., Morgado, L., Amante, L. & Bidarra, J. (2006). *Modelo Pedagógico Virtual da Universidade Aberta. Para uma universidade do futuro*. <https://bit.ly/3P5A1Yi>
- Pritchard, A. (2009). *Ways of Learning*. Routledge.
- Rodríguez Rodríguez, Y. A., Solórzano Paredes, A., Vera Chóez, M. M. & Parrales Poveda, M. L. P. (2021). Actitud frente a la distancia socio-afectiva de los estudiantes en la enseñanza virtual. *UNESUM-Ciencias. Revista Científica Multidisciplinaria*, 5(1), 57-74.
<https://doi.org/10.47230/unsum-ciencias.v5.n1.2021.313>
- Santos, A., Moreira, L. & Peixinho, F. (2014). *Projetos de e-Learning Inovação: Implementação e Gestão*. Lidel.
- Valente, P. (2022). *e-Learning e Formação Profissional: cenários e estratégias didáticas para o Ensino de Língua Inglesa (LE/L2)*. (Tese de Doutoramento). Universidade Aberta. Faculdade de Ciências Sociais e Humanas-Universidade Nova de Lisboa, Portugal.
- World Economic Forum. (2015). *The global competitiveness report 2015-2016*. Geneva: World Economic Forum. <https://bit.ly/3qyxuvx>
- World Economic Forum. (2016). *New vision for education: fostering social and emotional learning*. (W. E. Forum, ed.) <https://bit.ly/3JsKpFZ>
- World Economic Forum. (2017). *Promise or peril: decoding the future of work*. <https://bit.ly/3qBLFzX>
- World Economic Forum. (2018). *The future of jobs report*. <https://bit.ly/3oVelmY>
- World Economic Forum. (2021). *Annual Report 2020-2021*. Geneva: World Economic Forum. <https://bit.ly/3P5AOZg>