*Artículos científicos*

# Implementación de la educación virtual en tiempos de COVID-19 en la Facultad de Música de la UANL

*Implementation of virtual education in times of COVID-19 at the Faculty of Music of the UANL*

*Implementação da educação virtual em tempos de COVID-19 na Faculdade de Música da UANL*

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## Resumen

Esta investigación se hizo con la finalidad de contar un diagnóstico que describa las percepciones del alumnado y los profesores de la Facultad de Música de la Universidad Autónoma de Nuevo León (UANL) sobre la capacitación para el uso de los recursos digitales durante el confinamiento provocado por la covid-19. Para este trabajo de investigación cualitativa se utilizó el diseño de la investigación-acción. Los resultados arrojaron que la mayoría de los encuestados cuenta con una red segura de internet; que muchos estudiantes no tenían habilitado el correo institucional, necesario para la utilización de la plataforma Microsoft Teams, pero lograron solucionarlo con prontitud. Además, se manifestó la falta de capacitación en la utilización de las plataformas digitales. En cuanto a las experiencias adquiridas, se lograron implementar estrategias que probaron el grado de innovación y

creatividad de los docentes para abordar los contenidos temáticos durante la educación en tiempos de covid-19. Finalmente, a través del análisis del discurso, se observó que la educación a distancia ha evidenciado las diferencias socioeconómicas y que aún existe la necesidad de obtener una adecuada capacitación en la utilización de tecnologías digitales que se ajusten a la educación musical.

**Palabras clave:** covid-19, diagnóstico académico, educación musical, estrategia virtual.

## Abstract

This research was done in order to have a diagnosis that describes the perceptions of students and teachers of the Faculty of Music of the Autonomous University of Nuevo León (UANL) on training for the use of digital resources during confinement caused by COVID-19. For this qualitative research work, the action research design was used. The results showed that the majority of those surveyed have a secure internet network; that many students did not have institutional mail enabled, necessary for the use of the Microsoft Teams platform, but they managed to solve it quickly. In addition, there was a lack of training in the use of digital platforms. Regarding the experiences acquired, strategies were implemented that tested the degree of innovation and creativity of teachers to address thematic content during education in times of COVID-19. Finally, through discourse analysis, it was observed that distance education has shown socioeconomic differences and that there is still a need to obtain adequate training in the use of digital technologies that are adjusted to music education.

**Keywords:** COVID-19, academic diagnosis, music education, virtual strategy.

## Resumo

Esta pesquisa foi realizada com o objetivo de obter um diagnóstico que descreva as percepções de alunos e professores da Faculdade de Música da Universidade Autônoma de Nuevo León (UANL) sobre o treinamento para o uso de recursos digitais durante o confinamento provocado pela covid-19. Para este trabalho de pesquisa qualitativa, foi utilizado o desenho de pesquisa-ação. Os resultados mostraram que a maioria dos pesquisados possui uma rede segura de internet; que muitos alunos não tinham o correio institucional habilitado, necessário para o uso da plataforma Microsoft Teams, mas conseguiram resolver rapidamente. Além disso, faltou treinamento no uso de plataformas digitais. Em relação às experiências adquiridas, foram implementadas estratégias que

testaram o grau de inovação e criatividade dos professores para abordar conteúdos temáticos durante a formação em tempos de covid-19. Por fim, por meio da análise do discurso, observou-se que a educação a distância tem apresentado diferenças socioeconômicas e que ainda há a necessidade de se obter uma formação adequada no uso das tecnologias digitais que se ajustem à educação musical.

**Palavras-chave:** covid-19, diagnóstico acadêmico, educação musical, estratégia virtual.

# Introduction

Online education has been implemented since the health emergency derived from covid-19, which began in Hubei province, China, at the end of 2019, and spread precipitously throughout the rest of the world. "Obviously, the geographical extension and the speed at which infectious diseases spread have grown greatly and this is only a reflection of current human mobility" (Torales and Munguía, 2020, para. 7).

On March 11, 2020, deeply concerned by the alarming levels of spread and severity that it entails, the World Health Organization [WHO] (2020) classified the coronavirus disease 2019 (covid-19) as a pandemic, and recommended social distancing as the main prevention measure.

The Government of Mexico, through the Ministry of Public Education [SEP] (2020), published in the Official Gazette of the Federation [DOF] (March 16, 2020) the "Agreement number 02/03/20 by which Classes are suspended in schools of preschool, primary, secondary, normal and other education for the training of teachers of basic education of the national educational system, as well as those of the middle superior and superior types dependent on the SEP ".

The Autonomous University of Nuevo León (UANL) issued a statement on March 14, 2020 in which the decision to suspend face-to-face classes was reported as of March 17 and until further notice, due to new cases in the entity and as a measure to prevent and mitigate the pandemic (Millennium Digital, March 14, 2020). Right there, the UANL announced that academic activities would continue online to comply with the provisions of the various educational programs it offers.

However, before starting classes in this new modality, the UANL Faculty of Music carried out a diagnosis to professors and students to know the level of training that the

academic community had in the use of the digital platforms proposed at the institutional level, the educational programs in which each professor worked and the internet accessibility of each member of the Faculty. Once the previous diagnosis had been made, on April 20 the online classes were resumed through the Microsoft Teams platform to continue with the semester and a readjustment was made in the academic calendar in order to comply with the total content of the plans and study programs scheduled for the school year.

It is worth mentioning that the Microsoft Teams platform, which is proposed for use at all educational levels of the UANL, is part of the digital strategy to transform and enable face-to-face teaching-learning processes to the online mode. Microsoft Teams is a unified communication and collaboration platform that allows video calls, has file storage, and integrates applications that strengthen educational work. To access this platform, each student or teacher must have their institutional email account enabled.

"The digital contribution backed by more than 20 years of experience, the digital education department guarantees the excellence of its collaborators as a result of the implementation of our wide variety of services" (UANL, 2020b, para. 2).

Through tutorials and online sessions, training was given to students and teachers for the implementation of the Microsoft Teams platform. Indeed, the UANL Faculty of Music published a manual for Microsoft Teams teachers on April 21, 2020. It is a compilation of different explanatory sections to achieve meaningful learning that stimulates the formation of students with critical thinking that allows them to adapt to new needs and social changes.

## A new reality in education

The social, economic and educational reality during this pandemic will be a reference point for a new normal. Currently, technologies make up the scaffolding that allows continuing with academic content in educational centers internationally.

"For a long time, music programs and music education itself have been immune to pedagogical research and innovation. Today, this situation is taking an important turn "(Giráldez, 2010, p. 145).

Koutsoupidou (2014) believes that music training can be examined from different perspectives, taking into account factors such as the age of the people involved, the level of education, the nature of learning (formal, informal), specific fields of musical instruction and the instruction mode.

The UANL Faculty of Music offers a Bachelor of Music with emphasis on composition, instrumentalist, musical education, singing and choral conducting. Most of the elective classes are individual, because they refer to the learning of the instrument that each student chose.

The strategies used for instrument classes have always been focused on autonomous learning, where the teacher acts as a facilitating guide, allowing the student to build their own knowledge from the technical-musical bases that allow them to develop physiological and cognitive skills for studying your instrument.

During the confinement caused by covid-19, the strategies used have been adjusted to a new teaching-learning. The student has become even more autonomous and the teacher has had to develop a scaffolding from a distance, using platforms and programs that are adapted to their subject and that allow the total content of the program to be covered.

In the specific case of the instrument classes of the Faculty of Music, which comprise an essential part of the curricular map of the students of the intermediate technical levels in Music, higher university technicians and Bachelor's degrees in Music, the platform proposed by the UANL, Microsoft Teams, it has not been entirely practical: the sound shifts continuously in video calls, the student's body posture is not appreciated and sometimes the position of the hands cannot be clearly seen.

For a music student, a physical development that allows him to obtain the necessary skills to play an instrument and a musical auditory development that allows him to recognize the forms of musical literature are of paramount importance. For this reason, we depend on the quality of the video call to be able to instruct the student in their individual classes synchronously. "The development of hearing is for musicians what visual development is for plastic artists" (Malbrán, 2007, p. 124).

The elements of music are sound, rhythm, intensity, and pitch. Students must develop an adequate technique for muscle refinement that allows them to achieve the emission of the sound of their instrument. It is necessary to maintain a constant auditory training with a critical vision. "Intentional listening has a particular goal or purpose, to learn something or to use it in some way after the listening experience is over" (Green, 2019, p. 40). When the student manages to develop the ability to listen analytically, she can implement didactic elements in the work of sound emission.

During confinement, the optimization of time is substantial to achieve compliance with the loads that each subject comprises and with the practice of the instrument, since to

acquire the necessary skills to approach and interpret the works proposed in the program of each semester it is required of a long time and perseverance. "A teaching with less presence of the teacher and less localized in the classroom is an invitation to the autonomy of people, to their ability to organize their time" (Feito, 2020, p. 162).

It has been proven, through experience, that, due to the haste with which distance education was implemented, there has been a lack of preparation and training on the part of the teachers to offer the contents virtually to the students. Obviously, the planning of the classes and the strategies used have had to change due to the new modality.

Something no less important is that not all students have the necessary tools to continue their training at a distance, for example, the lack of internet at home, the devices, which they often have to share with their siblings or with parents who also they are working online. In addition to these circumstances, there are also piano students who do not have an instrument at home and who did their daily practice at the Faculty of Music. "Pretending today that the educational system performs its function adequately at a distance is a fantasy that leads to frustration and increases educational inequalities" (Rogero, 2020, p. 175).

## Adaptation of the education system during COVID-19

Cárdenas and Valdés (15 de abril de 2020) they point out that "the expectation of an accelerated change in the behavior of young people and adults to deal with Covid-19 highlights the opportunity we will have to reposition the policies of lifelong learning" (para. 3). While it is true that change has been accelerated, and that it has been achieved thanks to the tools provided by digital platforms, it is also true that socio-economic inequalities and digital gaps between generations have become even more evident.

> In general, teachers, families and students are subjected to brutal stress. The teachers have had to reinvent in record time another way of teaching and interacting with students. In general, they have done so by contributing their personal means and without clear guidelines and without digital disconnection guidelines, feeling continuously scrutinized and evaluated. (Beltrán *et al*., 2020, p. 100).

Due to the emergency situation, the existence of some gaps has been evidenced. Fernández (March 31, 2020) mentions three:

*1)* The first gap refers to internet accessibility and the possibility of having electronic devices. The myth of the insurmountable gap has been maintained by inertia and because exaggerating the deficiencies served some teachers to justify their inaction and some students to avoid tasks and demands.

*2)* The second gap is related to the capacity and power of the internet network, the quality of the devices available at home, as well as the time each student spends on learning depending on the family environment

*3)* The third gap shows that there are teachers and educational centers with or without experience in digital education, with and without an innovative attitude, with or without platforms already in place and tested

Teachers have had to train in an accelerated manner to begin offering the classes that they usually taught in person; they have had to adapt in a dizzying way to the platforms proposed by the institutions to demonstrate their educational work. Education has become more personal because each student has different social, family and economic characteristics. "We consider that the different resources offered by the Distance Education Strategy: transformation and innovation for Mexico, may be an opportunity to recover the creativity of teachers and strengthen their leadership within the strategy" (National Commission for Continuous Improvement of the Education [Mejoredu], 2020, para. 5).

Due to the sudden changes that society has had to go through, it is possible that education focuses more on stimulating critical thinking of the student population that allows them to adapt more easily and develop initiatives to strengthen meaningful learning, and thus be more autonomous and creative.

The most important thing will be to reestablish educational paradigms: a less academic education, less focused on disciplines, and more practical, more oriented towards understanding the world around us, from a perspective of solving the needs and problems of social and political life. , economic and the natural environment. Interdisciplinarity is a very important tool to facilitate better understanding in students. Carrying out work from home implies breaking the paradigm of on-site work, so people must have the ability to organize their work time and schedule during the day to avoid situations of anxiety or stress (Álvarez, 16 de abril de 2020; Ávila, 2017; Tapia, 24 de marzo de 2020).

The closure of schools in the context of the pandemic has implied the creation of strategies to continue teaching students in new conditions. Thus, the members of the school communities face scenarios in which each one assumes activities different from those traditionally established. Teachers and male teachers face a double responsibility; on the one hand, with their family and loved ones, since they are mothers or fathers, caregivers of the elderly, providers; on the other, with its students, as it embodies the challenge of coordinating and facilitating their school learning at home and at a distance. This implies testing and perfecting new forms of teaching through technologies and the need to create different affective and pedagogical relationships. Many teachers face the challenge amid various limitations of access to these technologies; Others, such as those who work in multigrade schools or serve a migrant population, face an even greater challenge (Mejoredu, 2020, p. 8).

## Objectives

- Diagnose the level of training of teachers and students in the use of the digital platforms proposed by the UANL.
- Know and analyze the experiences acquired during education in times of Covid-19 in the community of the Faculty of Music
- Analyze the strategic possibilities that could be implemented during the sanitary confinement

## Materials and methods

An emancipatory critical view based on qualitative research was used for this action research study. "Critical action research is intimately committed to the transformation of educational organization and practice, but also to social organization and practice" (Latorre, 2015, p. 31). Regarding the emancipatory vision, Álvarez (cited in Hernández, Fernández and Baptista, 2010) points out that in this the objective goes beyond solving the problem or developing improvements to a process: it intends that the participants generate a profound social change through Of the investigation.

In this work, three measurement instruments were used in stages. The first of them had the purpose of making a first diagnosis about the tools and connectivity of the community of the Faculty of Music. Subsequently, a second instrument was applied to observe the experiences acquired during the migration process from face-to-face classes to online education. And finally, a third instrument was applied to observe the results of the implementation of the digital strategy proposed by the UANL.

> Action research simultaneously performs the expansion of scientific knowledge and the solution of a problem, while also increasing the competence of its respective participants (co-investigating subjects) when carried out in collaboration, in a specific situation and using feedback from information in a cyclical process (Martínez, 2015, p. 239).

To detail more about the instruments used here, it must be said that the first of them was a closed questionnaire with five items, with a Likert scale, carried out through a Google form by the School Department of the Faculty of Music of the UANL. It was distributed through digital media in order to know the level of training of the academic population to use the Microsoft Teams platform, the number of members who have internet at home, the platforms that have been used and the enabling of the institutional mail. The student population is 716 people, the sample of this research was 480 participants; the universe of teachers is 107 people, the sample was 70 participants. A percentage results analysis was used to make the initial diagnosis.

The second measurement instrument was a questionnaire that was applied with the intention of knowing and analyzing the experiences acquired during the process of adapting face-to-face education to the virtual modality, a change that was caused by the health emergency, from an academic point of view And social. It was made up of nine items; Also here the Likert scale was used and it was carried out through a Google form. The questionnaires were sent online through the Microsoft Teams platform to 150 participants from the UANL Faculty of Music. Thus, a sample of 132 people was obtained, including 118 students and 14 teachers. Later, an analysis of percentage and descriptive results was used in order to know the experiences acquired by the students and professors of the Faculty of Music and analyze the possibilities that can be implemented in order to strengthen our academic training.

The third measurement instrument was a semi-structured survey that was applied to 120 students at the intermediate technical, upper technical and undergraduate levels. It consisted of five closed questions with a Likert scale and six open questions. It is worth mentioning that only students participated in this third instrument and that it was applied during the final exam week. Here we also performed a percentage analysis of results, a descriptive one and a discourse analysis for the open questions. As a result, inductive categories were obtained. This was done in order to observe the results of the implementation of the digital strategy proposed by the UANL for the end of the January-June semester. "Research-action designs also represent a form of intervention and some authors consider them mixed designs, since they normally collect quantitative and qualitative data, and move simultaneously between the inductive and deductive scheme" (Hernández *et al.*, 2010, p. 514).

# Results

## First measuring instrument

The first instrument was applied to the student and teacher community in order to know the degree of training in the Microsoft Teams platform, proposed by the UANL as part of the digital strategy to face the contingency due to covid-19. This platform can be used by teachers and students to give continuity to academic activities at all levels. Its access is through the university mail, which must be enabled for each of the members of the academic and student staff.

Thus, a diagnosis was made about the training that the academic community has to use the Microsoft Teams platform, the internet accessibility that they have in their homes, the enabling of institutional mail and the means by which they have been trained to use this platform.

The instrument was answered by 480 people (67.03%), out of a total of 716 (intermediate, superior and undergraduate technician). In other words, 236 students did not respond to the survey sent by the School Department of the Faculty of Music (see table 1).

**Tabla 1.** Resumen descriptivo de la población estudiantil y porcentajes de encuestados

| Programa educativo | Población total | Encuestados | Porcentaje de encuestados |
|---|---|---|---|
| Técnico medio en Música | 541 | 347 | 64.14 % |
| Técnico superior universitario | 22 | 21 | 95.45% |
| Licenciatura | 153 | 112 | 73.20 % |
| Total | 716 | 480 | 67.03 % |

Fuente: Departamento de Escolar de la Facultad de Música de la UANL

Most of the respondents affirm that they are not trained in the use of the Microsoft Teams platform proposed by the UANL to carry out virtual classes at all educational levels. It is worth mentioning that to access this platform it is necessary to have the institutional email enabled and we can see that most of the students do not have it in force because they do not use it. Finally, according to the results of this diagnosis, the vast majority of students do have internet access at home; only a small portion of people do not have a stable network to be able to continue their studies virtually (see figure 1).

**Figura 1.** Diagnóstico de alumnos
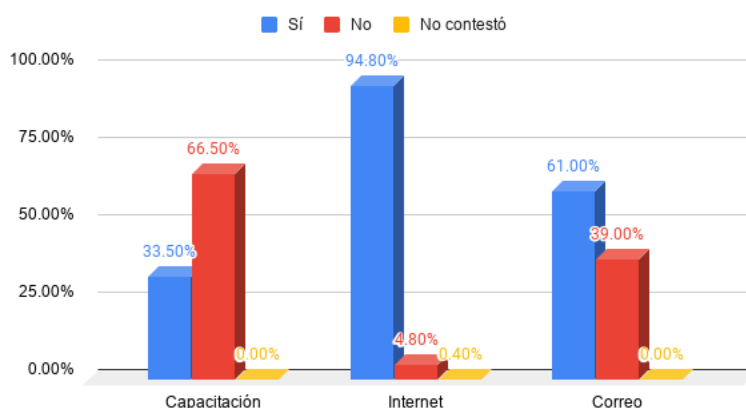


Fuente: Departamento de Escolar de la Facultad de Música de la UANL

Once the Microsoft Teams platform is enabled through institutional mail, the training method most frequented by students has been directly the use of this platform, despite the fact that the UANL has put scheduled online trainings at the service of its academic community and Within its digital strategy platform, free access manuals have been published in order to facilitate the use of this new digital tool (see figure 2)

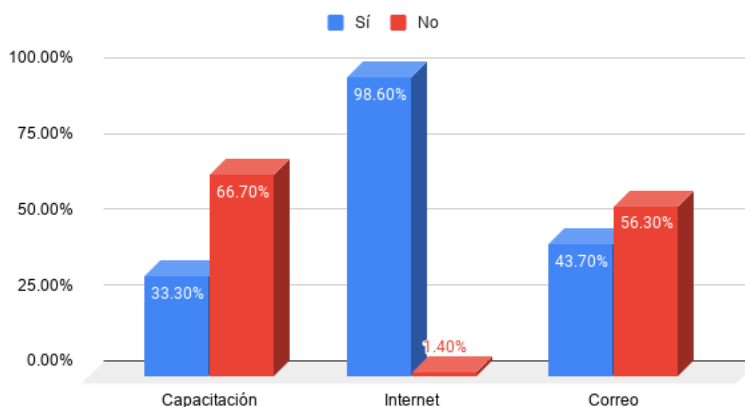**Figura 2.** Medios de capacitación para Microsoft Teams
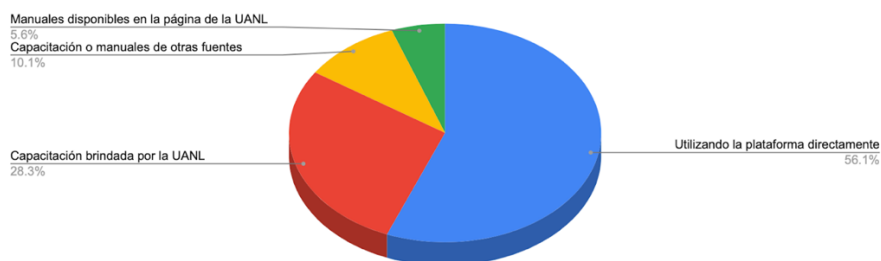


Fuente: Departamento de Escolar de la Facultad de Música de la UANL

Regarding teachers, the sample size was 107 teachers from the three different educational levels, however, only 70 teachers answered the instrument, that is, 65.42%; the rest, 37 teachers, did not answer the survey (34.58%).

Figure 3 shows that there is a very similar percentage to the sample of students. Most teachers state that they are not trained to use this platform. It was also discovered that more than half of the teachers do not have institutional mail clearance, as in the case of students. Finally, the vast majority of teachers do have an internet network at home, which facilitates the implementation of online classes (see figure 3).

**Figura 3.** Diagnóstico de docentes



Fuente: Departamento de Escolar de la Facultad de Música de la UANL

The training means most frequented by the sample of teachers have been mainly the training provided by the UANL through courses and manuals available on the digital strategy page, unlike the students, who mostly received training directly in the use of the Microsoft Teams platform (see figure 4).

**Figura 4.** Medios de capacitación para Microsoft Teams
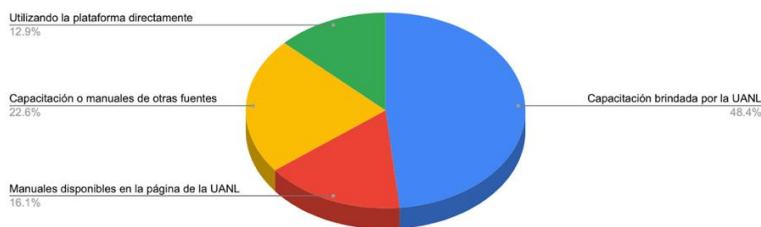


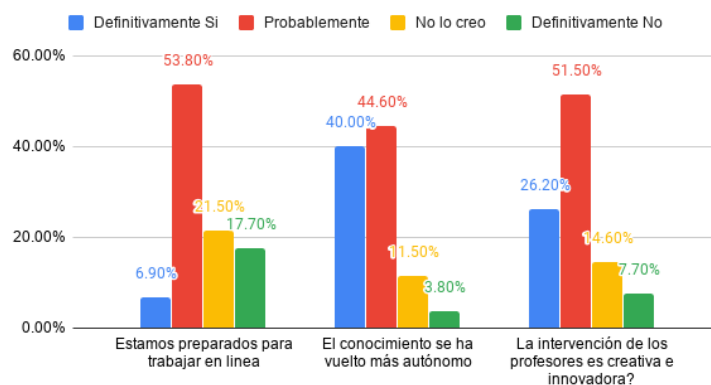Fuente: Departamento de Escolar de la Facultad de Música de la UANL

The UANL (2020) established the general guidelines of the digital strategy through an official document to give continuity to academic activities in the online mode, as a result of the sanitary security measures of the General Health Council, among which are found suspension of non-essential activities. This document presents the guidelines for the academic performance of professors and students that must be observed by the university offices, considering at all times the principle of academic flexibility.

## Second measuring instrument

The second measurement instrument was made to know and analyze the experiences acquired with the implementation of online education caused by the aforementioned confinement in the community of the Faculty of Music. The answers correspond to 90% of students and only 10% of teachers. Within the sample, 54.6% women and 45.4% men participated. The academic levels correspond to 81.5% of medium technician in Music, 0.8% of superior technician, 11.5% of bachelor's degree, 1.5% of master's degree and 4.6% of doctorate.

Within the first part of the questionnaire it stands out that the majority of those surveyed feel that in some way they are prepared to face the change of modality, from face-to-face classes to virtual education. Most consider that knowledge has become more autonomous from confinement and more than half of the population consider that the intervention of teachers has been creative and innovative (see figure 5).

**Figura 5.** Educación a distancia durante la contingencia por covid-19



Fuente: Departamento de Escolar de la Facultad de Música de la UANL

While from the second part of the questionnaire it was possible to realize that the majority think that distance education makes socio-economic differences evident. Likewise, he does not believe that the total of the planned thematic contents belonging to the curricular map of the semester in question has been worked on and considers that the platforms used for his instrument class are not always optimal or functional because sometimes the sound fails or moves ( see figure 6).

**Figura 6.** Diferencias económicas, contenido curricular y uso de las plataformas
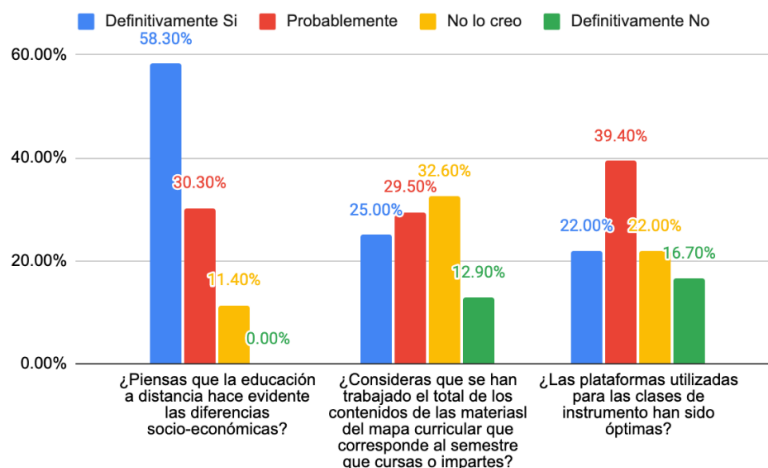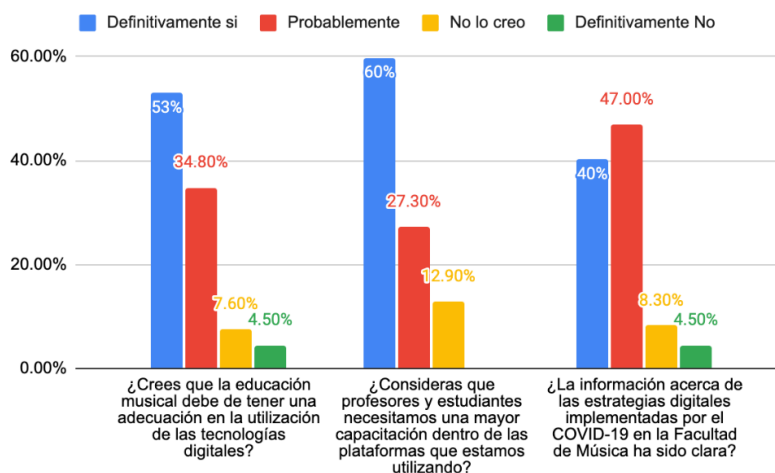


Fuente: Elaboración propia

Regarding the last part of the questionnaire, most of the participants consider that music education must have an adaptation in the use of digital technologies. He also believes that it is definitely necessary for teachers and students to have more training within the

platforms that are being used and finally values that the information on the strategies implemented by the Faculty of Music has been clear (see figure 7).

**Figura 7.** Información, capacitación y utilización de las plataformas en la educación musical
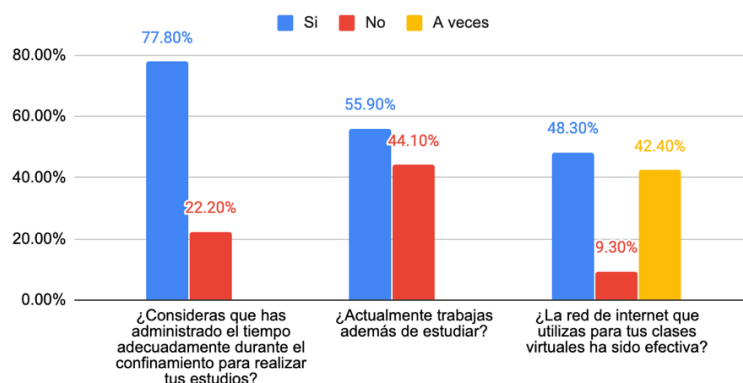


Fuente: Elaboración propia

## Third measuring instrument

The third measurement instrument was implemented in order to analyze the strategic possibilities that were implemented from the sanitary confinement. It was carried out through a semi-structured survey that was applied online to 120 students at the intermediate technical, upper technical and undergraduate levels during the week of final exams (from June 1 to 5).

In the survey participation there were 50.8% men and 49.2% women. Most of those surveyed belong to the middle technician 77%; the undergraduate and higher technical levels registered 18.6% and 3.4%, respectively.

As part of the results, most of the students consider that they have appropriately managed the time to carry out their studies during confinement; There is a large percentage of students who work in addition to studying, and according to the opinion of the participants, the Internet network they have used for their virtual classes has been effective (see figure 8).

**Figura 8.** Administración del tiempo, trabajo y capacidad de internet



Fuente: Elaboración propia

Similarly, for most students, distance education has caused increased stress. Likewise, the majority of the participants show a great preference for taking a hybrid education system, some face-to-face classes and others virtual.

**Figura 9.** Estrés en los estudiantes y preferencia por un modelo híbrido
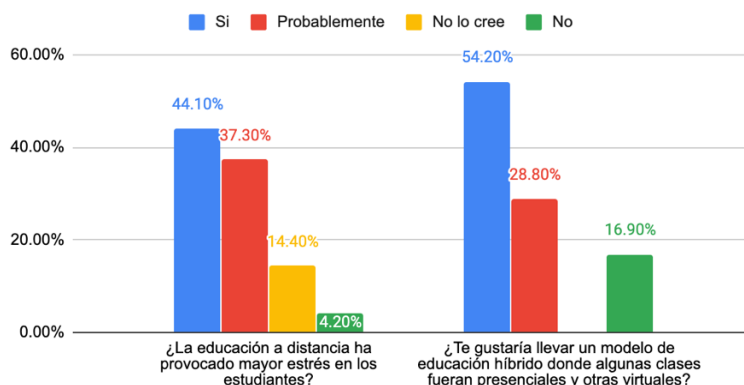


Fuente: Elaboración propia

**Discourse analysis of open questions**

**Mention five advantages that were obtained during the virtual classes**

**Tabla 2.** Cinco ventajas que se obtuvieron durante las clases virtuales según la población estudiantil

| Ventajas que más se mencionaron | Frecuencias |
|---|---|
| Ahorro de tiempo | 114 |
| Ahorro en transporte | 92 |
| Más tiempo para practicar el instrumento | 87 |
| Más contacto con los maestros | 76 |
| Comer y dormir mejor | 75 |

Fuente: Elaboración propia

Some students also mentioned that the recordings of the virtual classes were very helpful to be able to progress better, that they felt safer because they did not have to leave home, because they had a lower risk of contagion, and that the teachers were more flexible.

**List five disadvantages that you observed during virtual classes**

**Tabla 3.** Cinco desventajas que observaste durante las clases virtuales

| Desventajas que más se mencionaron | Frecuencias |
|---|---|
| Fallas en la plataforma derivadas de la mala conexión de internet | 106 |
| La plataforma no funciona para clases de instrumento | 98 |
| Trabajo excesivo en las materias teóricas | 62 |
| Espacio inadecuado para recibir las clases | 46 |
| La retroalimentación no es inmediata | 44 |

Fuente: Elaboración propia

However, the students also stated that the platform fails a lot because of the internet. Sometimes it slows down or gets lost and on many occasions the image freezes or the sound becomes out of phase, which is why the instrument classes are very uncomfortable, because there is no continuity in the sound, it is of very poor quality, in addition to it would take several cameras for the teacher to be able to observe the body posture. They have chosen to send videos, although in this case the feedback is not immediate.

Many students commented that their house is small, that they have siblings studying or that their parents also work at home, so they feel that they do not have a functional space for their classes. Finally, they felt very stressed because the workload of some subjects considered that it was excessive.

### Share five strategies you used to study the instrument

**Tabla 4.** Comparte cinco estrategias académicas que utilizaste para el estudio del instrumento

| Estrategias utilizadas | Frecuencias |
|---|---|
| Administración del tiempo | 112 |
| Escuchar grabaciones de las obras | 114 |
| Estudiar con metrónomo | 93 |
| Consultar las grabaciones de las clases virtuales | 72 |
| Tener más contacto con el maestro de instrumento | 54 |

Fuente: Elaboración propia

Most of the students mentioned the importance of organization in study time, establishing daily goals to be able to approach their material; Almost all of them helped each other through recordings, they got used to using the metronome as a work tool and mentioned that, as the connection was not good during their instrument class, they had to send videos so that the teacher could see their real progress and wait for the feedback, which, on the bright side, they could refer to repeatedly.

## Make a proposal of at least three strategies that you would like to see implemented in the virtual instrument classes

**Tabla 5.** Haz una propuesta de tres estrategias que te gustaría que se implementaran en las clases virtuales del instrumento

| Estrategias que con más frecuencia se propusieron por los estudiantes | Frecuencias |
|---|---|
| Más tiempo de clase o más frecuencias de clase de instrumento para técnico medio | 94 |
| Más grabaciones hechas por los alumnos para retroalimentación del maestro | 88 |
| Préstamo de cubículos e instrumentos | 56 |

Fuente: Elaboración propia

Most of the respondents stressed that class time is very short. Due to the fact that, as the platform presents connectivity failures, the sound is cut off or it arrives displaced, class time is not enough to see the contents and strategies of each of the works that are prepared per week. Mostly, they propose more recordings by the students, so that the teachers give feedback, preferably in writing or on tape, in order to be able to consult the document constantly. They also suggest sending video material of technical exercises, scales and arpeggios so that the fingerings can be consulted whenever necessary.

Finally, many express that the instrument class should have some face-to-face frequencies because it is very difficult for the teacher or the student to work with several cameras that focus on the body posture, the instrument, the score and especially the work of sound. Students suggest borrowing cubicles and instruments for those who do not have one at home.

**What classes would you like to take virtually?**

**Tabla 6.** ¿Qué clases te gustaría tomar virtualmente?

| Clases virtuales preferidas | Frecuencias |
|---|---|
| Todas las materias teóricas | 37 |
| Historia de la Música | 34 |
| Armonía | 26 |
| Solfeo | 22 |

Fuente: Elaboración propia

Students felt that the classes they prefer to take virtually are the majority of theoretical subjects; they first mentioned History of Music, Musical Appreciation, Harmony and Solfeggio. Only 10% expressed that they do not like online classes and that they prefer the face-to-face mode. Classes could be synchronous and asynchronous to reinforce the contents of the theoretical subjects.

**What classes would you prefer to take in person?**

**Tabla 7.** ¿Qué clases preferirías tomar presencialmente?

| Clases presenciales preferidas | Frecuencias |
|---|---|
| Instrumento | 70 |
| Solfeo | 43 |
| Conjuntos Corales | 42 |
| Orquesta y Ensambles | 24 |
| Todas las clases prácticas | 27 |

Fuente: Elaboración propia

Most of the participants expressed that the instrument classes should be face-to-face. In Solfeggio it can be observed that a large percentage prefers to have the class in person; Ensembles Corales also has a large percentage of preference in person. In general, we observe that in practical subjects it is necessary to have direct contact with students, at least on some frequencies during the semester.

# Discussion

Three measurement instruments were designed and applied in the context of online education at the Faculty of Music derived from the health emergency caused by covid-19. Thanks to the first measurement instrument, we were able to observe that most of the students and teachers have a stable internet network at home; However, it was detected that a large part of the academic community did not have the institutional mail enablement necessary for the use of the Microsoft Teams platform and were not trained to use this platform proposed by the UANL as part of the digital strategy. . According to Rogero (2020), some analyzes on the situation of students during confinement have focused on the digital divide, that is, on access to digital devices, knowledge about their use and the availability of content and methodologies adapted to learning from distance.

From this change of modality in education, in addition to academic flexibility, the recording of virtual sessions in which students can reinforce their knowledge, promote mutual learning, use autonomous learning strategies that allow them to develop, prevails. of creativity and curiosity, show self-discipline, which will encourage students greater development and capacity for distribution and organization of time.

For Koutsoupidou (2009, 2010), technology can be valuable for music teachers, as it provides a bank of resources, software packages and applications. Thus, it can potentially increase your confidence by replacing conventional forms of teaching that require certain levels of musical knowledge and competencies.

Finally, as Dammers (2009) asserts, musical performance is inherently a synchronous experience, since musicians make music together at the same time. While many college programs in other disciplines are moving rapidly toward asynchronous instruction online, music programs are unlikely to do so, given their synchronous nature. Most of the respondents think that in instrument classes, digital platforms are not solid enough to be able to work on sound, musicality and body position; They are also not efficient in classes such as ensembles or choir, where students must work together to achieve a quality musical product.

In the context of the United Kingdom, teachers defend the virtual modality in theoretical subjects, however, they do not believe it suitable for instrument classes, unless it is through video recording (Palau, Usart y Ucar, 2020).

## Conclusions

From the first measurement instrument it was diagnosed that the majority of the teaching and student community of the Faculty of Music has internet at home to access the Microsoft Teams platform proposed by the UANL. The main obstacle that arose was the lack of training on the platform due to the haste with which it was implemented: a large percentage of respondents stated that they had been directly enabled on the platform, however training was offered through tutorial videos and scheduled virtual advice to through the digital strategy for the covid-19 contingency. Another important factor that slowed down the start was that 39% of the students and 56.30% of the teachers did not have their institutional email enabled for access to the platform.

In order to know and analyze the experiences acquired during education in times of covid-19 at the Faculty of Music, a second measurement instrument was designed, the results of which show that most of the participants do not feel sure of being prepared for education. from distance. A large percentage consider that knowledge has become more autonomous due to the implementation of virtual classes. The intervention of the teachers has been creative and innovative because they have had to adapt their chair and change the strategies to achieve meaningful learning for the total approach of the contents of the subjects of the curricular map of each semester, however, some students think that The total content has not been worked on due to the change in modality.

It is necessary to have an adaptation in the use of digital technologies for music education, especially for instrument classes, because the platforms used are not optimal, the internet constantly fails and the sound is delayed. In addition to the above, according to the results of the participants, more training is needed for teachers and students.

The strategies implemented during virtual education consisted mainly of videos, recordings of virtual classes, dissemination of printed materials through the files available on the platform, interaction between the teacher and each of his students, because in all In the cases, a chat was available to be in contact with the teachers of each subject. The schedules were made more flexible as part of the virtual strategy. In the instrument classes, additional support was provided, which consisted in that the students had the possibility to send videos of their progress to obtain a recorded feedback from their teacher, with the advantage of constantly consulting the instructions. Practice in musical performance requires constancy and monitoring by the teacher; motor skills are developed that require specific muscular

training through which the interpretive skills of each instrument are achieved. Sometimes, part of the class is demonstrative to exemplify the body position, muscle relaxation in shoulders, arms, forearms, wrists and fingers, the adequacy of movements and weight control is necessary for the emission of sounds. The change of modality has caused the personalization of learning in a synchronous and asynchronous way through narrative description as an emergent measure.

Most of the respondents conveyed through their opinion that distance education makes socioeconomic differences evident, because not all students had the opportunity to continue their education due to the lack of electronic tools, there are families that have a team computer for all members and, with the emergence of virtual education, they are not financially prepared to provide these tools to each of the children of school age, coupled with the fact that many working parents continue their work online. Not all members of the Faculty of Music community have their own instrument, some are foreigners and normally do their internships at the institution's facilities.

In the last part of this study, we could observe that most of the students have been able to manage their time to carry out their studies, despite the fact that more than half of them work in addition to studying. Also, that the internet network they have almost always works well. And mainly, that online education has caused them greater stress, so most would prefer a hybrid model, where some classes are face-to-face and others virtual. Among the advantages that they mentioned more frequently is the saving of time, of money in transportation, they have more time to practice their instrument, more contact with each of the teachers and they feel that they have eaten and slept better.

The disadvantages observed are the failures in the platform, due to the weak internet connection, which causes that the instrument classes through video calls do not work well, they feel that they have had excessive work on the part of the teachers, the space in the one they study is not always adequate and the teacher's feedback is not immediate. The strategies they used to study their musical instrument were mainly time management, recording the works, studying with the metronome, having a closer relationship with the teacher and being able to consult the recordings of the virtual classes. The students propose to have more instrument class frequencies for medium technicians, deliver more recordings to obtain more feedback and the loan of cubicles with the measures proposed by health to be able to make use of the faculty spaces.

Finally, the students felt that the classes they prefer to take virtually are largely those with theoretical content and practical subjects, such as those that have to do with the instrument, music theory, choral ensembles, orchestras and ensembles. Because they are of a direct interaction nature, they consider that they should be face-to-face, as soon as sanitary measures allow it.

## Future lines of research

This study is based on the experience acquired during the first months of sanitary confinement. The processes carried out to migrate from face-to-face education to virtual education at the UANL Faculty of Music are described. It is a work that can give way to future research in order to know and analyze the socioeconomic inequalities that virtual education has generated. Undoubtedly, these inequalities have caused an academic lag in students who do not have a robust internet network, an adequate infrastructure to work at home, the lack of a suitable musical instrument for the development of their professional career and the growing need for inserting into the world of work as an emerging measure to strengthen the family economy. Currently, distance education is still in the process of adaptation in the area of music education.

## References

Álvarez, G. (16 de abril de 2020). Covid-19. Cambiar de paradigma educativo. *Consejo Mexicano de Investigación Educativa*. Recuperado de http://www.comie.org.mx/v5/sitio/2020/04/16/covid-19-cambiar-de-paradigma-educativo/

Ávila, B. R. (2017). Experiencias pedagógicas significativas de educación rural en Colombia, Brasil y México. *Revista del Centro de Investigación de la Universidad la Salle*, *12*(48), 121-158.

Beltrán, J., Venegas, M., Villar, A., Andrés, S., Jareño, D. y García, P. (2020). Educar en época de confinamiento: La tarea de renovar un mundo común. *Revista de Sociología de la Educación (RASE)*, *13*(2), 92-104. Recuperado de https://doi.org/10.7203/RASE.13.2.17187.

Cárdenas, S. y Valdés, R. (15 de abril de 2020). La educación a lo largo de la vida en los próximos años. *Nexos*. Recuperado de https://educacion.nexos.com.mx/?p=2262.

Comisión Nacional para la Mejora Continua de la Educación [Mejoredu]. (2020). *10 Sugerencias para la educación durante la emergencia por COVID-19*. México: Gobierno de México. Recuperado de https://www.gob.mx/mejoredu/articulos/10-sugerencias-para-la-educacion-durante-la-emergencia-por-covid-19?idiom=es.

Dammers, R. J. (2009). Utilizing Internet-Based Videoconferencing for Instrumental Music Lessons. *Update: Applications of Research in Music Education*, *28*(1), 17-24. Retrieved from http://doi.org.conricyt.remotexs.co/10.1177/8755123309344159.

Feito, R. (2020). Este es el fin de la escuela tal y como la conocemos. Unas reflexiones en tiempo de confinamiento. *Revista de Sociología de la Educación (RASE)*, *13*(2), 156-163. Recuperado de http://dx.doi.org/10.7203/RASE.13.2.17130.

Fernández, M. (31 de marzo de 2020). Una pandemia imprevisible ha traído la brecha previsible. *Cuaderno de campo*. Recuperado de https://bit.ly/2VT3kzU.

Giráldez, A. (coord.ª) (2010). *Música. Investigación, innovación y buenas prácticas*. España: Grao.

Green, L. (2019). *El aprendizaje de la música pop. Avanzando en la educación musical*. Madrid, España: Morata

Hernández, R., Fernández, C. y Baptista, P. (2010). *Metodología de la investigación*. México: McGraw-Hill.

Hernández, R. y Mendoza, C. (2018). *Metodología de la investigación. Las rutas cuantitativa, cualitativa y mixta*. México: Mc Graw Hill.

Koutsoupidou, T. (2009). El mundo digital de los niños: integrando música y matemáticas en educación preescolar. En Addessi, A. R. y Young, S. (eds.), *Actas de la 4.ª Conferencia de la Red Europea de Educadores e Investigadores de Música de Niños Pequeños* (pp. 375-384). Bolonia, Italia: Universidad de Bolonia.

Koutsoupidou, T. (2010). Formación musical inicial de maestros generalistas de jardín de infantes en Grecia: ¿Qué piden y qué reciben? Revisión de la política de educación artística.

Koutsoupidou, T. (2014). Online distance learning and music training: benefits, drawbacks and challenges. *Open Learning*, *29*(3), 243-255. Retrieved from https://doi.org/10.1080/02680513.2015.1011112

Latorre, A. (2015). *La investigación-acción. Conocer y cambiar la práctica educativa.* Barcelona, España: Graó

Malbrán, S. (2007). *El oído de la mente.* Madrid, España: Akal.

Palau, R. F., Usart, M. y Ucar, M. J. (2019) La competencia docente digital de los docentes de los conservatorios. Estudio de autopercepción en España. *Revista Electrónica de LEEME*, (44), 24-41.

Martínez, M. (2015). *Ciencia y arte en la metodología cualitativa*. México:Trillas

Milenio Digital. (14 de marzo de 2020). Cancelan clases en la UANL para prevenir contagio de coronavirus. *Milenio*. Recuperado de https://www.milenio.com/ciencia-y-salud/sociedad/coronavirus-mexico-uanl-cancela-clases-aviso.

Organización Mundial de la Salud [OMS]. (2020). Brote de enfermedad por coronavirus (COVID-19). Recuperado de https://www.who.int/es/emergencies/diseases/novel-coronavirus-2019.

Rogero, J. (2020). La ficción de educar a distancia. *Revista de Sociología de la Educación (RASE), 13*(2), 174-182. Recuperado de http://dx.doi.org/10.7203/RASE.13.2.17126.

Secretaría de Educación Pública. (16 de marzo de 2020). ACUERDO número 02/03/20 por el que se suspenden las clases en las escuelas de educación preescolar, primaria, secundaria, normal y demás para la formación de maestros de educación básica del Sistema Educativo Nacional, así como aquellas de los tipos medio superior y superior dependientes de la Secretaría de Educación Pública. *Diario Oficial de la Federación.* Recuperado                                                                      de

https://www.gob.mx/cms/uploads/attachment/file/543994/Acuerdos_Covid_19_DO
F_27_03_20.pdf.pdf.pdf.pdf

Silva, R, y Juárez, J. (2013). *Manual del modelo de documentación de la Asociación de Psicología Americana (APA) en su sexta edición*. México, Puebla: Centro de Lengua y Pensamiento Crítico.

Tapia, I. (24 de marzo de 2020). Home office durante el coronavirus ¿Estás preparado? *Educación Futura.* Recuperado de https://www.educacionfutura.org/home-office-durante-el-coronavirus-estas-preparado/.

Torales, B. y Munguía, M. (2020). La movilidad urbana como pieza clave para la contención de pandemias. *Avance y Perspectiva, 6*(1). Recuperado de https://avanceyperspectiva.cinvestav.mx/la-movilidad-urbana-como-pieza-clave-para-la-contencion-de-pandemias/.

Universidad Autónoma de Nuevo León [UANL]. (2020). Estrategia digital para contingencia COVID-19. Recuperado de https://www.uanl.mx/wp-content/uploads/2020/03/ESTRATEGIADIGITAL.pdf.

Universidad Autónoma de Nuevo León [UANL]. (2020b). Educación digital. Recuperado de http://ded.uanl.mx/estrategia-digital-uanl-2/

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