

The E-learning educational model, a different experience in Solfeggio classes during COVID-19**El modelo educativo E-learning, una experiencia diferente en las clases de Solfeo durante el COVID-19**

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Abstract

From a totally face-to-face teaching, the Solfeggio subject, like others included in the curriculum of a musician, required an improvement from models that would ensure its development in the exceptional conditions in which the world lives after the onset of the pandemic (Covid-19). This work is to recapitulate the modifications made to the instructional design of the Solfeggio for the e-learning modality in the Academic Unit of Arts of the Autonomous University of Zacatecas (UAAUAZ), Mexico. Basically, the instructional design was carried out according to the characteristics of the ASSURE model, which facilitates the continuity of the teaching-learning process and the participation of students in a synchronous and asynchronous manner.

Solfeggio, Educational technology, Instructional design

Resumen

De una enseñanza totalmente presencial, la asignatura Solfeo, como otras incluidas en el currículo de un músico, requirió un perfeccionamiento a partir de modelos que aseguraran su desarrollo en las condiciones excepcionales en que vive el mundo tras la aparición de la pandemia (Covid-19). Este trabajo tiene por objetivo recapitular sobre las modificaciones realizadas al diseño instruccional del Solfeo para la modalidad e-learning en la Unidad Académica de Artes de la Universidad Autónoma de Zacatecas (UAAUAZ), México. En lo fundamental, se realizó el diseño instruccional según las características del modelo ASSURE, lo que favoreció la continuidad del proceso de enseñanza-aprendizaje y la participación de los estudiantes de manera sincrónica y asincrónica.

Solfeo, Tecnología educativa, Diseño instruccional

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Introduction

In 2020, humanity was involved in a series of changes resulting from the pandemic that has hit the world (Covid-19). By the end of November, worldwide, more than fifty-five million people had contracted the disease; more than 20M of them in American continent (Minsap, 2020); this situation has its impact on the different social spheres, education among them. The educational institutions responded to the policies of sanitary control and protection of children and young people, with alternative measures such as modifying the school calendar, adjusting the study plans or using the educational modality e-learning, among others. The teachers found it necessary to adapt the programs taking advantage of the flexibility offered by the curriculum, and the instructional designs to the new conditions, the latter was the case of the Solfeggio subject in the Academic Unit of Arts of the Autonomous University of Zacatecas (UAAUAZ).

The Solfeggio subject is part of the curriculum of the musician whose preparation must be comprehensive, this means that in addition to the requirement of mastery of the knowledge and technique of the instrument that he performs, other skills are needed such as reading and writing music, the esthetic appreciation of the music, its harmony and others, which help to guarantee quality in interpretation. The contribution of the subject in the training of the musician is essential and has an important role for any instrument by assisting in the development of a range of essential skills for an interpreter, which demands teaching time and hours of practice in the week. Traditionally Solfeggio has been taught under a face-to-face and formal educational model, with a tendency towards the use of the reproductive method in order to achieve the required competencies.

The Autonomous University of Zacatecas decided to face the new challenge that the pandemic launched and not leave the students who are trained in it unprotected, so by agreement the use of the different ICT platforms and tools was implemented to continue the development of the process of teaching - learning from home. This situation has led to a change in the form and strategies of teaching by teachers and learning by students, the latter having the responsibility of self-learning or self-taught learning.

There have been dissimilar obstacles to overcome to bring the semester to a successful conclusion during the exceptional health situation that the world is experiencing today, among which we can mention the disproportionate economic situation of students and their families, the refusal to change the form of instruction or the little mastery over the tools of Educational Technology to teach professorships, which motivated the sharing of experiences through this work that aims to recapitulate on the modifications made to the instructional design of the Solfeggio subject for the e-learning modality at UAAUAZ, Mexico.

Development

For the training of the musician at UAAUAZ, within the curriculum map, the apprentice must take the bachelor's level, however, he must demonstrate, in an admission exam, the mastery of knowledge and skills corresponding to the Basic and Upper Middle levels of music, or take them in the institution in whole or in part depending on whether or not they present knowledge.

The Solfeggio subject is present throughout the Basic level and the first year of High School. At the Basic level, the subject has as its main objectives the formation and development of musical literacy skills, the correct rhythmic - melodic - harmonic sense, the evolution of tuning, as well as the understanding of musical structures and symbols, among others, from the theoretical to the practical, providing essential elements and tools for the academic and professional progress of the student.

With the use of the reproductive method for the training and development of competences, the lessons have historically been carried out in a face-to-face and formal way, in the beginning they were taught individually by the instrument teacher himself, who made sure that the students knew the different musical symbols to perform the interpretation of the works.

According to Lasso (2019), Solfeggio instruction has its roots in the practice and wisdom of the teacher. "Historically, the teaching of music theory is based on a 'teacher-apprentice' model that allows the student to obtain reliable feedback based on the experience and knowledge of the tutor" (p. 4).

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The subject was gaining more importance over the years and as a consequence specialists began to emerge in its instruction, the classes went from being individual to forming groups (which according to the criteria of the experts should not exceed a maximum of 12 apprentices), in the same way the practice of calligraphy, intonation and the recognition of scales, intervals, chords and melodies, among other musical elements, were introduced. Taking as a reference the European schools, among which was the Real Conservatorio Superior de Música de Madrid (1830) considered as the first dedicated to the professional development of the subject (Loras, 2010), its main teaching methods were implemented internationally, which were modified and integrated the folklore and didactics of each region.

The program of the subject at UAAUAZ is based on the programs of the Cuban school, whose methodological roots are from the Soviet school, however, over the years it has undergone the necessary restructuring and adjustments taking into account the needs of the students. Students who enter the center, their characteristics, idiosyncrasies, respect for traditions, capacities and the aptitudes they possess for academic performance during their training.

The abilities and particularities are valued in exams that are carried out for the entrance to the institution in which two main elements are appreciated: the first allows the observance of the physical, emotional and relaxation characteristics that the applicant presents; in the second, the auditory, rhythmic and musical uptake capacities are estimated, and in the latter it is where teachers play an important role in establishing the development of the apprentice. On this basis, during the course of the semesters the student acquires the skills required in the program and at the end of the first year it is expected that competencies such as tuning, rhythmic-melodic sense and basic musical literacy will have been developed.

According to Danhauser (s.f.), Solfeggio is the basis of musical training and presents two didactic structures, on one side, the practice of intonation, musical literacy, sight reading, among other skills; while in theory the necessary concepts are acquired for the understanding of musical symbols and styles.

Regarding the way of teaching the subject, there are those who promote that it should be done by first understanding the theory (musical concepts) to later put what has been learned into practice; this way of working leads to the latter being relegated to a less important position so less time is devoted to exercising and the achievement of objectives. Personally, the undersigned adopts the position of scholars who teach Solfeggio lessons from practice to theory, it is considered that a definition is easier to understand if its execution is already mastered. However, in both cases, the subject is conceived from the traditional and face-to-face model.

Since the end of last year the world has been plagued by a disease that, unfortunately, has claimed many lives; this had an impact on the development of the teaching-learning process of the disciplines and subjects in the educational institutions of the different educational levels; in many places these entities embraced new models taking advantage of the technological potential available to students. The use of Educational Technology (TE) led to the continuity of Solfeggio classes during the pandemic period, which benefited student learning.

Educative technology

Taking advantage of the benefits of technology is one of the current challenges in education, which aims to not be left behind in terms of its use to benefit the teaching-learning process. During the last years it has been seen that technological evolution has penetrated almost all aspects of the daily and social life of the human being, among which we can mention communication, entertainment and even economics.

Although it is recognized that the popularization of ET occurs mainly in the 90s, when the Internet spread as a teaching tool, dissimilar authors are of the opinion that its beginnings match with the birth of radio. González and Flores (2020) express that, as a discipline, it arises at the University of Indiana in its graduate program. These authors specify that Educational Technology constitutes the "... evolution that integrates communication media and instructional methods used in education to provide practical tools that are useful for learning" (p. 15).

During the bibliographic review, it was observed that several authors agree that educational technology is presented in parts or moments and despite the fact that some list them in three and others up to five, all of them agree that it had a birth, insertion and coupling with the different learning theories, taking the behaviorist as a scoop.

Regarding its usefulness in education, Sosa (2020) establishes as an educational technology project the effort that is made during a time or situation in which a technological product, a benefit or an objective is developed in which technology plays a fundamental role in search of a solution to an educational need or problem. Its introduction and integration into the teaching-learning process changes the dynamics of the pedagogical process, and within this the role of the teacher.

According to Johnson et al (2013) cited in (Tapia, 2020), the teacher is no longer restricted to performing the role of presenter in classes or instructor of activities, TE has induced this new functions, leading him to become as a designer, facilitator and learning coach, in order to show students how to navigate and discriminate, the recognition of quality and the need for selection within the abundant information that technology puts at their fingertips. All this must be accompanied in turn by a review of learning theories in correspondence with the practice of the teacher, who faces a new challenge where technology drives the responsibility of self-learning, that is, the teacher must design environments to promote and develop learning - learn, learn responsibly and ethically, as well as learn for life, among others.

The current scenario demands a critical review of the positions of teachers regarding the way in which they have been exercising their profession. Likewise, of the pedagogical currents with which they identify their practice; be it: behaviorist, constructivist, cognitive, connectivist, socio-critical or other. Today there is another challenge "mastering technologies as a means to promote, develop and drive self-learning." (Tapia, 2020, p. 3)

TE has brought with it new and diverse modes of teaching and learning, within which distance models and learning environments are gaining popularity among educators; which brings as a consequence that they master certain digital skills that support their work in the new era, within which we can mention, the communicative, pedagogical, technological and research skills. The use of virtual teaching-learning environments (EVEA), for example, has been one of the challenges imposed by the health situation that the world lives today.

Instructional design

When applying the analysis of documents in the review of several articles, book chapters and theses, it could be seen that Instructional Design (DI) is defined as a project that focuses on the preparation of learning environments and resource planning, materials and methods that promote the quality of the teaching - learning process, based on the characteristics of the learners. Belloch (2012) states that DI defines the phases through which the design of the materials, the didactic work and the content of the course must pass with a minimum of quality.

According to González and Flores (2020), the instructional design involves planning to know what means and how they are going to be used, starting from the basis that the objectives and contents have been established, always having the characteristics and styles as the central axis of learning that predominate in the students that make up the group.

With this same perspective, De la Torre and Sosa (2018) express that the main objective of instructional design is based on guaranteeing the level of teaching, efficiency and enjoyment of learning, increasing the value of it for the learner, this presents three fundamental principles: the recognition of the results of the instruction, how the contents are developed within it and the form of evaluation of the teaching - learning process.

In the instructional design it is advisable to plan the systematic evaluations that lead to the evaluation of the course from all perspectives, from the skills acquired by the students, the use of the means and resources used, as well as the performance of the instructor during the course.

Belloch (2012) mentions different models of instructional design for virtual learning environments, among which we can mention: the Gagne model, the Gagne and Briggs model, the Dick and Carey model, the Jonassen model, the ADDIE model (for its acronym) and the ASSURE model (for its acronym), in essence, their difference lies in their format and the phases that compose them.

Teaching - virtual learning modalities, whether e-learning or b-learning, require training proposals that must cover not only knowledge of the concepts and contents of the discipline being taught, but also the use of technology as a tool transmission of information and promoter of learning. Under this idea, the realization of a DI that corresponds with the environment and virtual models is conceived, to systematically implement the activities that facilitate the creation of knowledge.

In summary, an instructional design that ensures the quality of the teaching-learning process, avoids tedium, and fosters temporal effectiveness, must include a planning that has as its central axis the characteristics of the students and as a starting point the objectives of the subject and the analysis of its peculiarities so that resources, means and tools can be related; It is also recommended to include the moments and types of evaluation that will be carried out in order to assess the progress of the process.

The model assumed for the instructional design that was modified as a result of the health situation in which we find ourselves throughout the year 2020 was the ASSURE model (for its acronym: Analyzer learners, State objectives, Select media and materials, Utilize media and materials, Require learner participation and Evaluate and revise) according to De la Torre and Sosa (2018) is a DI model that presents behavioral, eclectic, constructivist and cognitive approaches; However, it offers teachers the facility to subordinate the planning, development, review and adaptation of learning environments to the requirements of the students under their tutelage.

This model consists of six phases or moments that go from the analysis of the group with which they are going to work to the assessment of the implementation of the course both from the point of view of the skills achieved by the students and the evaluation of resources and subjects, as well as the teacher's performance in it.

The first moment that the ASSURE instructional design raises is to analyze the characteristics of the students that make up the group to work, this can be done from three essential elements, characteristics of the student, the skills to enter the course and what learning style is used identifies in each of the students. It is recommended that this analysis should be as deep as possible and that all the particularities of the learners be considered; "(A) Analysis of the learners: consider all the characteristics of the types of students or learners such as the general ones, their skills, knowledge, and attitudes about the subject, as well as the learning styles" (De La Torre & Sosa, 2018, p. 7).

In a second moment, the objectives of the course, the didactic units and the lessons must be implemented; all must be related to each other and it is advised that they take special consideration of the characteristics and needs determined in the previous phase of the apprentices. Once these procedures have been carried out, it is time to select the resources, means and materials that will be used during the development of the course and that will guarantee the construction of knowledge; In this regard, it is important to take into account not only the characteristics of the students, but also the objectives established for each moment of the instruction.

When selecting and preparing the means, tools and materials, it is recommended to bear in mind that in addition to making use of those that are available, or are found as a result of the search, said materials can be modified and even created in a way that contributes to quality in learning. At this point, the participation of the learners is required, as a guide to the process the teacher expresses the importance of the responsibility of self-learning, which will fall on them 85%.

The final phase of the model is the evaluation of the course, which is recommended to be carried out according to: academic development of the student during the course, implementation of resources, means and materials for the acquisition of knowledge, and the performance of the teacher. This assessment facilitates the adaptation and improvement of the DI for its future implementation.

Methodology

The promptness in assuming a model that would allow the continuity of the pedagogical process in the UAAUAZ determined that methods were combined to search for theoretical-practical references that would make possible the modification of the instructional design of the different disciplines and subjects, within them Solfeggio. In this case, the methods used were document analysis, survey, and pedagogical observation, from the perspective of the possibility of applying a model in the subject and promoting student participation. The characteristics of the platform and the selected model enabled the use of resources and tools that allowed visualizing the creative activity of the students and the development of the skills described in the course program, based on the guidance and instructions of the teachers.

ASSURE Instructional Design Model applied in the Solfeggio subject with the students of the 5th semester of the basic level of the Music career at the UAAUAZ during the COVID-19

The description of the application of the ASSURE instructional design in the Solfeggio subject is made from the initials of the model.

A; Analyzer learners: for this, the semester and level of the students that make up the group are taken into account; their characteristics are determined, particularly age range, sex, what instruments they practice and the number of members of the group. The identification data of the subject must also be exposed. The Solfeggio subject that is taught at the Academic Unit of Arts of the Autonomous University of Zacatecas, in the area of music knowledge for the 5th semester of the basic level of the music career, has a theoretical and practical orientation, a mandatory nature for the road. In it, the process is conceived from practice to theory, taking into account the characteristics of the students and enhancing those of the instruments they practice.

It has two hour / class with teaching intervention a week and two hours of individual work; and a total of one SACTA credits.

The groups were constituted on the basis of a minimum of nine students and a maximum of sixteen, by characteristics of age ranges and hours in which students could receive classes with the intervention of the teacher. In particular, the group in question is made up of 19 students of both sexes, an average age of 16 years, they are secondary level 9 and high school 10 students; they contribute to the family support 8, a task that sometimes coincides with music studies.

According to the program, the following skills must be developed during the semester:

- Identify the elements of musical language, for a good development of reading and writing.
- Stimulate creativity in the student, through the theoretical-practical application of knowledge of musical language.
- Promote listening skills through the practice of harmonic, melodic and rhythmic aspects
- Develop, through practice, the correct musical calligraphy.

As an entrance to the semester competition, students must master aspects such as the sense of basic tuning, the recognition and intonation of scales with up to five accidentals in the key signature, intervals, triads and their inversions, rhythmic execution of regular and irregular figures in simple and compound bars and sight reading.

At the end of the first phase of the ASSURE model, a VARK questionnaire was applied -for its acronym Visual, Aural, Read / Write and Kinesthetic, presented by Neil Fleming and Colleens Mills (2006) -, in order to determine the different styles of learning that predominates in the students who make up the group. By learning style Estrada (2018) understands a "... process through which skills and abilities are acquired and modified" (p. 223), that is, the way in which students learn and acquire knowledge.

However, he cites Smith (1988), who had expressed a definition where the qualities of this concept are identified: "... characteristic ways by which an individual processes information, feels and behaves in learning situations" (Estrada, 2018, p. 223). The application of the survey allowed the preparation by phases of the means, materials and resources that favored a better use of the learning time according to the prevailing styles in the group. Of the 19 students that belong to the group, five of them have a visual learning style, six have kinesthetic, three have literacy, two are auditory, and one is composed of visual literacy; This allowed planning, creating and / or modifying the tools to guarantee the cognitive process.

S; State objectives allows decreeing what must be learned in each of the units. These should be formulated with clear language establishing the goals, their content and the degree of acceptance in which these should be carried out at the end of the activities. It is suggested to check that the objectives contain the competencies and / or abilities that were determined for the entire course.

The particularities in the formulation of the objectives allow the student to know the level and quality in which the results must be achieved at the end of each subject and, based on this, carry out a systematic self-evaluation.

S; select media and materials; in this case, those that favored the acquisition of knowledge and fostered practice for the development of the skills described in the program were selected and used. At all times, the interrelation with the results obtained by the questionnaire was weighed, always trying to favor attention to all the learning styles that predominate in the group.

As experience, it could be seen that there are three factors to consider in this phase: modification, editing and / or creation of the resources that will be used in the teaching-learning process. On this basis, a list of materials was drawn up, which facilitated the assessment of their relevance and updating for the correct evolution of the process. Subsequently, the modification of those aspects that were considered outdated or that required it given the characteristics or needs of the students was made. Finally, the creation of materials, resources and means necessary for the acquisition of content was estimated.

U; Utilize media and materials. First, the entire course was mounted on a MOODLE LMS (Learning Management System) platform, which would support the entire process during the course and which also served as a means of communication between teacher - student - group.

Resources such as video conferences, audiovisual materials, Web 2.0 tools, podcasts, and mobile applications such as metronomes, tuning forks and / or tuners, among others, together with the instructions for synchronous and asynchronous activities, helped develop the teaching process - learning during the contingency period promoting self-learning and in some cases collaborative work.

R; Require learner participation, which was done through the use of resources such as video recording and podcasting. Creation in the apprentices was a fundamental factor and not only were they required to compose melodies or rhythmic schemes, but they were encouraged to share their creations with their peers so that they could interpret them; In this way, constructive and self-critical criticisms of the works were encouraged.

Among the positive experiences of the synchronous activities with the help of the platform, we can mention the active participation of the apprentices in the video classes programmed in mutual agreement, the exhibitions, advice, talks and debates that were carried out through the use of chat. Similarly, asynchronous activities were developed; one of those that had the greatest weight during confinement was knowing the platform on which they were going to work. To this end, an initiation within a week was developed where it was shown how the work should be done; during this time, the students were able to become familiar with it by editing their profile, uploading files, editing and creating videos and podcasts, among others.

E; Evaluate and revise. this last phase comprised two main moments, a systematic evaluation and an exam at the end of the course.

With the systematic evaluation it was possible to verify the work that was being carried out during the course, which served to identify individually the needs presented by each of the students and where the advice and intervention of the teacher or another student was required to skill development.

At the end of the course, the students took an exam that consisted of two parts, one written, more focused on theory, whose main points were literacy, auditory recognition and correct musical calligraphy; and another oral part, which was more oriented towards mastering practical skills. These evaluations made it possible to verify the academic progress achieved by the students during the semester.

As part of the evaluation of the course, a survey was carried out where students were able to give their opinion in correspondence with how they felt the development of the instructional process at this stage; the criteria on the materials, elements and tools used and designed by the teacher, as well as the participation of the latter in the teaching-learning process, had a positive impact on the improvement of the new course.

Discussion of the results

Facing the new way of working, in an EVEA, within the subject was something totally new; There were situations that made the teaching-learning process difficult, among which we can mention the irregular quality of internet access that some students had, the economic-social situation of them and their families, health situations that some they were presented either by their relatives, among others, which at the time led to adverse and negative reactions on the part of the learners and their attention from the teachers, as well as the modification of some individual preparation activities.

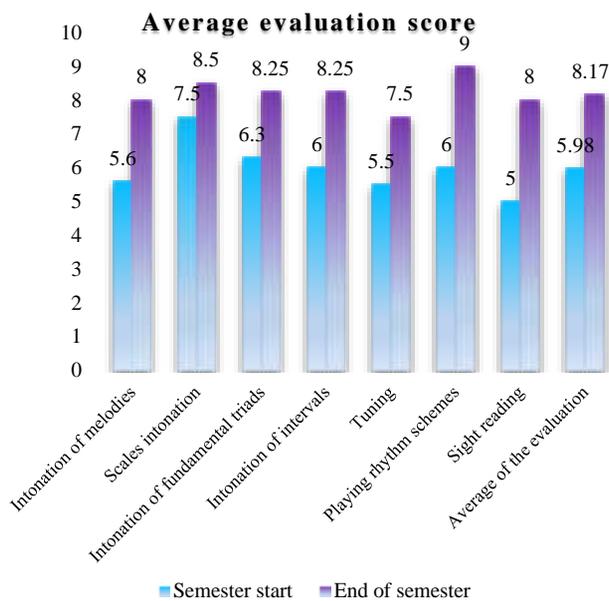
At the beginning of the semester, the entrance skills to the course were assessed with the expectation of knowing what the domain over them was; As expected, unlike the instrument, it was found that the skills in which a significant evolution was denoted were those that were closely linked with instrumental practice; This is due to the fact that Solfeggio is not a discipline that students practice conscientiously during the vacation period, experience indicates that they focus mainly on the improvement of technique and the practice of their instrument.

The initial diagnosis of the semester could be classified as satisfactory, because despite everything, the students showed a mastery of the skills to enter the course; during the first weeks, the quality of the freelance jobs was constantly questioned as they were below the level required of them. However, as the weeks passed, the management of the platform became more intuitive and the constant communication between teacher - student, teacher - group, student - student and student - group, positively influenced learning and progress academic.

Sharing experiences through video conferences, study tips to improve practice, that each student exposed their study methods, contributing to their classmates and motivating them to continue their academic development was reflected in the systematic evaluations that were carried out, where At the beginning, the group, for the most part, saw reflected grades of between 4 and 5 points on average based on 10, at the end of the semester these rose to 8.

Individually and making use of the messaging, private and group, offered by the MOODLE platform, the students expressed satisfaction in seeing their academic progress, in the same way, when presenting any doubt or need for work in any skill, they requested the intervention of the teacher, or Well, when receiving feedback on their work, they exercised and incorporated the elements that the teacher indicated.

As for the final evaluation, this showed that of the 19 students who made the initial diagnosis, 16 managed to improve in aspects such as intonation of melodies to one, two or more voices, scales, triads, intervals and inversions, in tuning, in the reproduction of rhythmic and polyrhythmic schemes and in sight reading. Graph 1 shows an assessment and how the the progress of the students behaved between the initial diagnosis and the final exams. It should be noted that for reasons unrelated to the discipline three of the apprentices could not complete the course.



Graphic 1 Comparison of scores of diagnoses at the beginning of the semester and at the end of the same.

Source: Self Made

To assess the implementation of the course, as well as the role that the teacher played in it, a survey was used where the students were able to express their opinions. From their results it was possible to perceive that the students did not feel neglected, there were some who requested more practical exercises, while others requested more time for the delivery of external activities, having a lot of study load; The teacher-student-group communication was valued as positive, expressing their satisfaction with the work through forums, wikis, chats and messages where they could express their doubts and concerns and in a synchronous and / or asynchronous way, both the teacher and their peers provided various solutions.

It was observed that the majority of the students declared that the LMS - Moodle platform was very user-friendly and works satisfactorily, although they expressed that among the main drawbacks of the course was the problem of internet access, not being able to participate synchronously in the video classes due to work reasons, health or family issues, however, they expressed satisfaction with the opportunities that the teacher gave them to carry out activities at the wrong time and to take into account the special situations that were unexpectedly presented to them.

The results showed that collaborative work could be greater, although it is understood that the subject is, generally, individual work; They also expressed that what they learned during the semester was very supportive in the practice of their instrument and in their academic development.

Conclusions

The exceptional conditions in which the course has been developed and within this the Solfeggio subject during 2020, in which the pandemic that still plagues the world has claimed many lives, led to the assumption of educational models that would enable distance work in subjects that traditionally they developed the teaching-learning process in person.

The characteristics of an instructional design that adopts the ASSURE model favored the assembly of the Solfeggio subject on the MOODLE platform, which facilitated the continuity of the process and the creative participation of students regardless of the problems and difficulties they faced during the course.

The instructional design based on the ASSURE model made it possible that during the teaching-learning process the characteristics of the learners and the objectives were addressed; and taking into consideration the above aspects, the means, resources and materials could be selected, discriminated, modified, edited and created that will promote the participation of students for the proper development of learning.

Finally, the design allowed to carry out a satisfactory assessment on the implementation of the course from the three main elements: the academic evolution of the students and their opinion about the role played by the teacher and the tools used during the course. At the end of the semester, the students expressed good opinions about the application and use of the Moodle platform for work, as well as the use of resources and tools that allowed a greater understanding of the contents. In the same way, they stated that the teacher-student-group communication was effective throughout the semester and with the use of the ICT tools that were enabled for it.

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