How to Cite:
Paz Mayurí, C., Fuster-Guillén, D., Medina Rosas, C. R., & Gómez Gonzales, W. E. (2022). Pedagogical tools for combined learning of dental prosthetics in times of pandemic. *International Journal of Health Sciences*, *6*(S4), 6443–6458. https://doi.org/10.53730/ijhs.v6nS4.10222

Pedagogical tools for combined learning of dental prosthetics in times of pandemic

Paz Mayurí, Carlos
Universidad César Vallejo
Corresponding author email: cpazm66@ucvvirtual.edu.pe

Fuster-Guillén, Doris
Universidad Nacional Mayor de San Marcos
Email: dfusterg@unmsm.edu.pe

Medina Rosas, Carmen Rosa
Universidad César Vallejo
Email: cmedinaro20@ucvvirtual.edu.pe

Gómez Gonzales, Walter Edgar
Universidad Privada San Juan Bautista, Perú
Email: walter.gomez@upsjb.edu.pe

***Abstract*---**Background: Education in dentistry, as in other health sciences, comprises three important components: a) classes, lectures and training based on problem solving, b) training practices with the help of simulators and c) clinical skills practices with patients. . As a result of the SARS-CoV-2 virus outbreak, there was an abrupt interruption in this entire process due to mandatory social distancing. Consequently, there was an increase in the search for new forms of distance education. Objective of the study : The objective of this review is to reveal the pedagogical tools that were used and could be used for learning dental prosthetics in times of pandemic. Method: The methodology used consisted of a search chain of research papers published in both Spanish and English in databases such as Pubmed , EBSCO, EBSCO HOST, EBSCO HOST Stomatology , Elsiever , Scopus and Scholar . Academic and that were published between 2009 and 2021. Results: After Based on the literature review carried out, we can conclude that Dentistry, like many health professions, has three learning components that the student must achieve: theoretical knowledge which, as seen in this review, can be supplemented and easily migrated to the online part of education with great success among students; on the other hand, the acquisition of procedural skills that they develop in the laboratories can be taken to

distance learning by monitoring the student; but it requires solid feedback and, finally, the development of professional clinical behavior that, as we have reviewed, cannot be replaced by any of these online tools and must be developed through close contact with the patient.

***Keywords*---**dental education, learning tools, dental prosthesis.

Introduction

Learning is the process by which knowledge, skills, attitudes, values and emotional reactions are acquired in response to certain events in the life of an individual, producing a change in him/her [1] . Psychologically, it is defined in various ways; Among the main positions are, on the one hand, that which states that learning is expressed as a change to a certain degree stable in the behavior of the individual; that is, an observable change (behaviorist theory) and, on the other hand, the one that considers that these changes occur in the capacity of association or mental representations of the individual; that is, an internal change (cognitivist theory) [1] . In any case, both are immersed in the learning of the human being.

The learning process uses a sequence of activities and mental operations that are not very visible and difficult to manipulate, involved in the act of learning and are helped by techniques (which are visible and manipulable) using mechanical and routine actions to consolidate this learning. It is between these two concepts that strategies appear, which are activities and mental operations elaborated with intentionality and that imply an action plan that will enhance the action of thought, since they are directly related to the quality of student learning [2] .

Education in dentistry, as in other health sciences, comprises three main components: 1-classes-lectures and training based on problem solving; 2-training courses with the help of simulators and 3-clinical skills practices. Of these three components, the last two require close contact with other people [3] . S tudents must not only acquire and demonstrate theoretical knowledge, but must also develop practical skills and manual dexterity; therefore, they must understand the theory so that they know how to execute it in the dental procedures that they are going to perform. Practical skills are acquired as they repeatedly practice the practical exercises, which have been demonstrated by the teacher and supported by theory through classes, literature reviews, conferences and review of assigned topics. The problem arises with the distance in time between the delivery of the theory and the execution of the procedures, which forces students to have to review their notes, articles, videos or other means of storing information [4] .

As a result of the SARS-CoV-2 virus outbreak, there was an abrupt halt in all educational and research work at the basic and higher levels, which understandably involves dental education. Consequently, there was an increase in the search for new forms of distance education. Most dental academic institutions need a lot of utilities from their clinics. Therefore, the closure of university dental clinics led to a greater economic burden for many institutions

including suffering financial loss. The world economic recession itself affected families, increasing the rate of desertion or abandonment in dental schools in the private sector, mainly [5] .

After understanding these learning difficulties, the help that computer-supported learning can provide becomes an important issue: "E-learning", which makes it easy for the student to work at the pace that their personal characteristics adapt to. allows it, organizing, himself, his own time, achieving, in addition, reducing the time assigned to theoretical classes and managing to increase the participation of students with learning. Better yet, if we can combine teaching methods with the help of technology, what is known as " blended-learning " or hybrid or combined learning, thus taking advantage of the benefits of both forms of instruction [4] . Regarding laboratory training, universities seek to improve efficiency and impact on students with computerized learning tools and computer-assisted instruction laboratories [6] .

Hybrid learning is defined as the mixture of two model learning environments; on the one hand, face-to-face learning in traditional physical environments that have always been used and, on the other, environments that are reaching exponential dimensions and developing more every day [7] . A hybrid or blended curriculum encourages students to learn both individually and collaboratively by engaging in a kind of community of inquiry that allows for a reflective element of review. Computer technology and the web enrich and enhance student learning while the desired results have a positive effect on the student's motor performance [8] .

Thus, three reasons are mentioned why the hybrid or combined modality is preferred over others, among them: a) better pedagogy; b) greater flexibility and increased access to knowledge and c) cost-effectiveness [7] . Assessing the situation in which students and the teaching of Dentistry find themselves today, we could then think that all these technologies and the different virtual learning environments would be of great help to generate a better learning environment for the student and it would provide teachers with the opportunity to develop their educational potential [6] . The interest of this bibliographic review is to reveal which learning strategies were most successfully used in the teaching of dental prosthetics in dentistry students during the pandemic period.

Method

For the development of this article, the bibliographic review has been taken as a tool; This is an observational, retrospective and systematic research methodology that is oriented to the analysis, interpretation and discussion of different views and academic positions in order to arrive at results and conclusions that can provide alternative solutions to the problem in question [9] . The methodology used consisted of a search chain of research papers published in both Spanish and English in databases such as Pubmed , EBSCO, EBSCO HOST, EBSCO HOST Stomatology , Elsiever , Scopus and Scholar . Academic and that were published between 2009 and 2021. For the search, keywords were used such as virtual education in dental prostheses, virtual education in dentistry, virtual education in

times of pandemic, b - learning , e-learning, virtual environments of learning, distance education, pandemic education, pandemic dental education. Mainly original articles on the subject have been considered. Because it is a very particular period in which learning and the population being studied are going to be analysed, particular and institutional expressions have also been considered that could, due to lived experience, contribute to the development of the subject. This is a descriptive review that aims to update and summarize everything related to pedagogical tools that are being used for learning dental prosthetics in dentistry students during the pandemic period; likewise, it is an evaluative review as it will expose results obtained by multiple investigations in reference to the effectiveness of most of these tools.

Result

After a review and analysis of 46 scientific articles and 1 book, it was possible to develop a general scheme that reflects the information obtained on *pedagogical tools for combined learning of dental prosthetics in times of pandemic,* taking into account the type of document reviewed, year of your publication, search strategy, original language of the publication and, finally, the database consulted.

After a review and analysis of 47 references, 5 articles were taken into consideration with which we can summarize what the *traditional learning of dental prosthetics in Dentistry is* like in general. We have taken into consideration the year of its publication, author(s) and the title of the publication.

In general , the teaching of dentistry has focused on three fundamental areas: theoretical knowledge, the development of procedural skills and the development of clinical professional clinical behavior [10,11] . Learning should focus on the student so that they can reflect through their learning and this helps to better relate the theoretical component with the practical, providing them with a solid vision that helps them sustain their development in the face of the challenge of a clinical problem [11,4] .

Teaching in dentistry seeks to provide the student with knowledge, skills, abilities and aptitudes that will serve as support in the exercise of their profession. Health professions require closeness with the patient for the development and training of technical and clinical skills, so this relationship cannot be replaced by distance educational methodologies. This student-patient relationship is vital for its execution [10,11,12] .

In many cases, students graduating from dental schools express dissatisfaction when they self-assess to determine their achievements during their student stage when this has been carried out with the traditional methodology. This is largely due to the fact that the model used has been developed on the basis that the main actor in their learning is the teacher, who becomes the only source of their knowledge and the student a simple receiver and where many times they do not feedback is given that can develop the student's critical and reflective thinking [13,4] . Part of this could be explained due to the organizational structure that many dental schools have, where their departmental nature makes it difficult to

make decisions on educational issues at the right and appropriate times. The current challenges of education, and even more clinical dental education, must be analyzed and discussed among all the teachers of the different departments so that they can understand and understand them and, above all, be trained before executing them. We must not forget, furthermore, that each student has his or her learning style and that the methodology that is going to be used in their teaching must give evidence of the benefit acquired by the goal achieved [10] .

After a review and analysis of 47 references, 3 articles were taken into consideration in order to summarize *learning and new assistive techniques (ICT)* today. We have taken into consideration the year of its publication, author(s) and the title of the publication. At present, and for a long time, our daily life has almost merged with the technology that is available, the arrival of the computer and the Internet opened a new field in the transfer of information and communication due to the greater accessibility to devices such as cell phones, tablets and others, it is almost impossible to be isolated from a globalized world. This endless possibilities and ways of searching for information, as well as being able to easily transmit and communicate it, is what we know today as information and communication technologies (ICT) [12] .

In general, ICTs are defined as the group of technologies that facilitate obtaining, elaborating, gathering, analyzing, modifying, communicating, and presenting all information contained in data, audio, images, and video [13] . The learning of the human being and the way of doing it has been continuously evolving between the teacher-student binomial in relation to the object of study. In this complicated process, a piece that has become fundamental is feedback, which is essential in the teaching-learning process and which today, thanks to new technologies and their learning tools, allows us to strengthen it using virtual pathways, becoming , above all, for the students of the 21st century, in a great help for their learning without pretending that it replaces some traditional teaching methods. The process of educating in the 21st century is immersed in this technological era, giving rise to an unprecedented change in the teaching process, thus making ICT the most important pillar of this new educational era [12,13] . All this effort to find new ways to achieve learning is done in order to achieve adequate knowledge; but it also helps the student to develop their best abilities through an active and effective learning process. We must understand the concept of e-learning as that which occurs between physically separated teacher and student and who rely on communication tools using different platforms. A variant of these ICTs is combined virtual learning or blended learning (b- learning) [13,14] .

After a review and analysis of 47 references, 40 articles were taken into consideration with which we can expose the existing and applied pedagogical tools (ICT) for learning dental prosthetics in times of pandemic. Of these, 15 articles were taken into consideration to present in a general way the *new technologies applied in distance learning* . The connection between technology and education helps and can be used in the university education of future dentists who, although they cannot replace clinical activity (at least for the moment), can greatly reinforce teaching-learning techniques for the future , giving rise to an interesting revolution in dental education that is already being able to be

incorporated into conventional pedagogical techniques [12] . Digital learning requires a reconfiguration of all the pedagogical processes involved in teaching, such as flipped classes, synchronous and asynchronous classes; likewise, to reconfigure the way of carrying out the evaluation of the student's learning and, why not say so, their own self-assessment, all of this supported by instruments that validate it and give each day greater security along the way [15,16] .

In dental education, developing the necessary skills and competencies are difficult to achieve in the student and, to achieve this, they require them to perform multiple repetitions of each procedure, these sessions being, in most cases, prolonged. As a result of the appearance in 2019 of the coronavirus SARS-Co-V-2 (severe acute respiratory syndrome coronavirus 2), our daily lives were affected in every aspect, one cause of which was the social distancing that directly affected the pedagogical design of the traditional teaching-learning models which had to abruptly migrate to digital or virtual configurations in order to maintain teaching while respecting this forced distancing [4,11,17] . Some aspects should be considered that the student accustomed to the face-to-face process should modify to adapt to the new virtual learning process, such as, for example, understanding that the study environment may vary according to their convenience as well as the time they dedicate to it and the time you do it; you will be able to easily access information and communication with your teachers and classmates with the new technology; he will have to plan his learning activities since he will be his own moderator; he must gradually learn the properties of the new technology; he must adapt to the new format of communication and interaction with his teacher and classmates and, lastly, he must know and understand that his learning will depend, to a great extent, on himself [15] .

Consequently, and because virtual activities offer the possibility of taking a learning environment within the same class or outside of it, virtual tools are the ones that will serve as a means of union between the theoretical component of knowledge with the the development of practical skills that the future dentist will need. For this purpose, virtual platforms have been created as didactic aids in virtual environments that serve as tutorials that will provide the student with timely information that will reinforce this learning in subjects that are more difficult to assimilate [6] . This pedagogical model must accompany the student throughout their learning, therefore, training in virtual environments must begin with teachers who must handle the basics initially, then it must continue with the training of students who, being more familiar with the handling of these technologies will be faster and more efficient [18] .

The application of this methodological tool in health has demanded a lot from teachers not only for requiring training directed to their specialty and supported by universities, but also in the different and varied methodologies for the teaching-learning process that must be achieved by the teachers. competencies of their students. This has been more difficult to incorporate in developing countries as they are unaware of much of distance education as they are not adequately trained [19] .

We said that dental education includes theoretical knowledge, the learning of procedural skills and the development of professional clinical behavior [10] . The theoretical component is, perhaps, the least complicated part of being able to migrate it online, since there are different systems and platforms that do not require face-to-face to execute it. On the other hand, the learning of procedural skills normally takes place in a laboratory environment where the teacher previously performs a demonstration and then the student performs the practice in a simulation module or work model. Although it is true, this part can be supplied by digital models and/or virtual reality, this is not enough because the final work requires that it be monitored and evaluated step by step by the teacher. This component does require close teacher-student interaction. Finally, the development of professional clinical behavior is considered the most important of all dental training and, in this component, close contact between student, patient and teacher is essential and necessary; therefore, it is considered the most difficult component to supply due to the lack of attendance. Dental education is a profession that demands close contact between human beings [20] .

ICTs have been incorporated into dental education since the 1980s with the advent and spread of the use of computers, incorporating them into many aspects of this profession, such as teaching itself, the area of research, the clinical area, and also in the administrative part. In 1988, the ADDA (American Association of Dental Schools) determined the guidelines for the strategic use of ICT. Nowadays, there are many multimedia programs and virtual platforms, three-dimensional human models and a series of other virtual tools that accompany the student in their learning, achieving an adequate knowledge of the theoretical component and also achieving a substantial improvement in the development of their skills. by achieving a much more active and effective learning which is objectively seen in the increase in their qualifications and training. This group of virtual tools is seen by students as an auxiliary means and not as something that will replace traditional teaching methods. Of all these ICT tools, the one that stands out is the so-called combined, hybrid, mixed or blended learning (b- learning in English) which has brought many benefits in the dental area [6,13,21,22] .Over time, we have witnessed the development that technology has reached in education, showing us the great potential it has to continue revolutionizing the teaching-learning process of traditional education, perfecting pedagogy with new synchronous and asynchronous modes of teaching. removing all barriers that space and time imposed for learning throughout their lives [23] .

Blended, hybrid, blended or blended learning (b - learning)

Teaching in dentistry is taught in different settings such as the classroom, the laboratory and the clinic, the latter being the backbone of all student learning as it integrates interpersonal and technical skills. As a result of social distancing due to covid-19, online learning was used mainly with the aim of continuing to provide continuity to the teaching-learning process [24] . It was intended to adapt new multipurpose spaces and even hold classes outdoors and distribute students into small groups in order to continue in a face-to-face format, but the lack of logistical and administrative resources, the deficiency in the number of appropriate teachers and the time that should be devoted to it prevented it from

being achieved. It was thus that distance education, the one that was always questioned, resulted in times of covid-19, the methodology that had to be applied as an immediate solution despite all the pedagogical difficulties that it had, but taking advantage of its hybrid, combined or by blended learning that contained [25].

Hernández, Nieto and Bajonero , in 2021, take the definition given by Graham in 2006 in which hybrid learning is the concurrence of two models of learning environments: the first is the one that we have always known where teacher and student share the same physical environment (face-to-face) in a so-called face-to-face relationship between the two, while the second is a "distributed learning" model that is based on the technological possibilities of communication and interaction where teacher and student meet in physical spaces different sharing a common experience through technology [7,26] . From the dental point of view, combined virtual learning is understood as learning in those synchronous and asynchronous virtual environments that are of great help to face-to-face instruction. Thus, the courses that are supported by the network and that are later complemented with face-to-face meetings with a teacher or tutor become very effective or more so than face-to-face meetings, the latter being able to also be virtual through videoconferences or teleconferences [6] .

Through blended learning, the improvement of all the student's skills is sought, promoting active and self-regulated learning. The student generates his own knowledge giving meaning to his lived experiences. The b- learning model is based on constructivist principles [27] . To achieve this objective, five important points are identified to take into account in order to apply and succeed this hybrid model: autonomous learning, collaborative work, interactive events, optimal development of evaluations and support materials [7] .

flipped-learning

The flipped classroom (Flipped-calssroom in English) is a mixed learning method in which the content to be reviewed is delivered to students prior to the meeting or face-to-face session in various formats that can be digital, audio and video [10, 28] . In this way, the students achieve and dose the learning of the knowledge on their own from the given resources and thus the formal class becomes an activity designed to promote the analysis and understanding of the content, thus being able to go from a teacher-centered model to a model where the protagonist is the student himself, stimulating his active participation which strengthens the acquisition of significant learning as well as favors and strengthens learning and collaborative work with his other classmates [26,29] . Examples of these resources are: e-portfolios or digital portfolios, the digital whiteboard, multimedia videos, blogs, podcasts, social networks or virtual communities, wikis, and others that are supported on the Web [30] .

E -portfolios or digital portfolios

This tool allows the student to modulate, by initiative and responsibility, the compilation of all material (paper, audio, video, etc.) that helps him in his learning through the design and construction of his portfolio, which will be supervised and reviewed by the student. teacher, achieving the evaluation and demonstration of skills acquired by the student through argumentation and justification. It is also called evaluation folder or learning folder [31,32,33] . It is a very versatile tool because it allows us to be able to evaluate learning, plan the development of the professional future as it is an active learning tool. For this reason, it is considered a formative assessment system [32,33] . This tool manages to create a sense of ownership in the student about their learning achievements, making them feel proud, responsible and dedicated [33] .

wiki

The most successful service on the web, where you can create and build on specific topics by editing your pages, either by adding, deleting or editing content collectively, easily and quickly, just by having internet access [29] . This tool allows groups of students to jointly develop content, build works collaboratively, develop their own texts and develop their own resource repositories under the conception of social constructivism. This type of collaborative project has the risk that the process of its preparation is unknown by the teacher, that is to say that he cannot know if all the members of the group contributed and to what extent and only see the final product. Platforms similar to these tools are Moodle, Dropbox and Google Drive [34,35] .

Podcast

This tool is an audio file (in some cases it includes a video) created in MP3 format for broadcast on the Internet, which can be accessed freely in most cases or through a subscription, in both cases, they can be downloaded. on a portable device. Reference is made that the name derives from the fusion of the concepts: Pod (capsule) and broadcast (broadcast or broadcast). Their presentation can take the form of interviews, dialogues, musicals, ambient sounds, comments from specialists on specific topics, classes, conversations, among others [29,30] .

It is a learning tool of easy availability and portability (laptop, MP3 player, cell phones, etc. Once the file is downloaded, it can be listened to without the need for internet access, giving the student the possibility of reviewing its content, as well as the being able to exchange knowledge as well as concepts, fostering collaborative work that is vital in the learning process.Another important advantage is that its content can be constantly renewed and adapted.[30] The Podcast has had singular success in its application by academic institutions for science careers. of health and others.It provides the student with independence in their own learning since they can use it in any place and at any time.It is most useful for theoretical contents [36] .

Blogging

It is a very simple virtual tool to develop in which the content can be edited, being able to incorporate images, videos, audios, animations, podcasts and links directly without the use of any application [29,37] . This tool is considered a learning log. In the case of education in dentistry, it could contribute a lot to the discussion of cases and problem solving since the students, as they participate, enrich the content of the blog and, in turn, can interact with their other students. peers asynchronously. The student can access from anywhere with internet access and their participation is recorded chronologically. Through the blog, the student becomes a co-creator of his learning, as well as his other classmates. Deficiencies and errors in the contributions can be recognized by giving the necessary feedback and motivates the student to be demanding in the quality of their contribution to the group by being visible to everyone [37] .

Media videos

This educational technological tool allows the delivery of content in a different format and timing, and is not intended to be used for the purpose of obtaining feedback [38] . As we know, video is moving images accompanied by sound. All audiovisual media are based on perception by the individual through the senses of hearing and sight. This tool makes it possible to present relevant information, describe processes, explain processes and teach skills in the time that the student wishes, which can be in a short time or in a longer time, definitively influencing their attitudes [39] .

Students believed that the advantage of the video was that the teacher explained each topic more calmly and carefully, unlike a face-to-face class; indicated that the teacher took more time to think and present in the video which were the most important points to be addressed and thus be able to clarify them. They also mentioned that they had the possibility of being able to watch each video several times, achieving their own feedback (central axis in the evaluation of learning) and learning according to their learning pace and that it also served as a reference for certain activities in the resolution of problems. their clinical cases (multimedia reference) [38] .

The use of video has been incorporated as a learning tool and it greatly helps the student in his skills training and psychomotor development as it is delivered with standardized information and does not have the drawbacks of the demonstration in small groups such as limited vision, ease of not taking notes and the ease of seeing the procedure to be performed very closely and having the possibility of repeating the video as many times as the student deems necessary. For this reason, it is considered, in some cases, a tool as effective as the one taught in person due to the achievement of skills acquisition and the satisfaction it gives to the student [40] .

Social networks or virtual communities

The development of information competencies contributes to the resolution of information competencies, they constitute the basis for the resolution of specific situations, it allows ease and speed of communication and encourages collaborative work, thus achieving continuous learning, an improvement in decision-making that will lead to a better exercise of the profession that we develop [41,42] . Social media has long been a dynamic means of communication, rapidly evolving and capturing the attention of millions of users. It is defined as a group of applications developed on the Internet that allow the exchange of content between its users, whether commercial or professional. Social networks such as Facebook, YouTube, Twitter, among others, are the ones that have developed the most popularity. Their use in education is based on the knowledge and familiarity that teachers have with respect to them [43] . Although it is true that today's students are very familiar with new technologies for their learning, it is not enough, since they must learn to find and discriminate the most convenient and reliable information, above all, they must learn to use all this information in their learning process, for which they must process and organize it to make sense of it [42] .

We must also remember that although social networks allow the creation of individual and collective profiles, this can expose users to risks in terms of public relations, both in the legal and ethical spheres, so it must be developed with the greatest possible care · . In most cases, these social networks are used more for communication purposes between students, teachers, administrative staff and some external followers, serving these networks as a showcase for teachers, courses, research promotion, as well as online magazine publications [41] .

The Cloud (Cloud Computing)

This term refers to the entire genre of the network that offers the user possibilities of applications, storage and processing of information, as well as later sharing (documents, email, agenda, etc.), the best known being the services provided by Google (Google Site, Google Docs , Google Calendar, etc) allowing adequate spaces for the shared elaboration of new information without worrying about distance or time [31] . Many universities give greater importance to the teaching of the care component, neglecting the student's progress in those skills that allow searching for and finding important scientific information [42] .

haptic simulators

During the training of the future dentist, it is always emphasized to develop clinical skills based on competence; for this reason, practices in laboratories become essential during their training, resorting to the use of mannequins and typhoons during the preclinical period to achieve this goal [44] . Supported by simulation, dental education has a good tool to achieve student learning and training, minimizing the ethical problems that could arise from the care of real

patients, in addition, dental students could be able to execute procedures with greater precision, providing greater patient safety in their treatments [45] .

We understand that dental students must achieve competencies to a degree that allows them to develop the care of a patient. Through simulation, the student is able to repeat each procedural protocol until achieving a minimum of skill in each of them, combining knowledge and sensory and motor skills [46,47] . The first School of Dentistry was founded in 1840 (Baltimore, United States) and set the guidelines for how the training of the future dentist should be [47] . In the beginning, these schools used models or simulators, made of resin and plastic that imitated the jaws [19] . Oswald Fergus (1894) invented the first simulator for dental use with a humanoid appearance that easily imitated the positions of the patient. Over time, instruments and systems were incorporated that achieved better development, allowing them to be accepted and used in dental schools around the world [19,47] . Today, these simulators are connected to computers, giving rise to the so-called haptic simulators, which are considered the latest in technology for dental learning and have become an almost essential alternative learning tool for achieving sensory and motor training of the patient. student during his studies. These simulators create preclinical experiences that allow the student to learn procedures, support their learning, and improve their training [11,19,47] .

Haptic simulators allow the student to have a tactile sensation with virtual objects, progressively developing the required manual dexterity without contact with the patient [6,11] . This technology has managed to become a very helpful tool for student learning and its use is increasing in many schools around the world. After the literature review carried out, it is concluded that Dentistry, like many health professions, has three learning components that the student must achieve: theoretical knowledge which, as seen in this review, can be supplemented and easily migrated to the online part of education with great success in students; the acquisition of procedural skills that they develop in the laboratories that can be carried over to distance learning through student monitoring; but that requires solid feedback and, finally, the development of professional behavior that, as we have reviewed, cannot be replaced by any of these online tools and must be developed through closeness with the patient.

On the other hand, ICTs were subjected to an unexpected evaluation in this pandemic period and managed, although with some things to improve and adapt, to facilitate obtaining, elaborating, gathering, analyzing, modifying, communicating, and presenting all information between the teacher and the student. Feedback has become more relevant as an essential component in the teaching-learning process in which today the student is the main manager. The pandemic led to the incorporation of ICTs in dental education, which were not taken into account, and it has been incorporated into many aspects of this process; but it requires a reconfiguration of all the pedagogical processes involved in its teaching.

The flipped classroom is becoming relevant throughout the learning process due to the methodology it uses where the content (given in digital formats, audio and/or video, etc.) is delivered to students beforehand for review and, in face-to-face session. , the feedback is received. The portfolio can be of great help to student learning as it is a versatile tool that promotes active learning and is based on a formative evaluation system. Wikis are little promoted tools, but they can greatly encourage collaborative student learning.

Podcasts are an easily available and portable learning tool and the ease with which students can have it on their laptop, MP3 player, cell phones, etc. It gives great cause that it can be one of the most used tools by students. On the other hand, the Blogs can be perhaps better directed, in the case of dentistry itself, to contribute to the discussion of cases and resolution of problems. The use of video tutorials has increased a lot in these times, taking advantage of the fact that it allows presenting information, describing and explaining processes to the student in a short time, repeatedly and definitively influencing their attitudes. Social networks are mostly used to boost communications, but it does not take away the potential that these may have by exploring their virtues a little more. The Cloud or Cloud computing is a very powerful tool to achieve collaborative work between students that easily allows the teacher to intervene in the corrections and comments that may be pertinent and allows possibilities of applications, storage and processing of information, as well as its subsequent sharing.

We said that procedural and clinical skills could not be replaced or migrated to the digital plane, but, fortunately, today, and with the development of technology, there are haptic simulators that allow the student to have the tactile experience and sensation with objects. which is showing great benefits by progressively developing the student's manual dexterity without contact with the patient. This technology has managed to become a very helpful tool for student learning and its use is increasing in many schools around the world.

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