

Active teaching methodologies in the Covid-19 pandemic: Case in a technical

RESUMO | Objetivo: relatar a experiência de enfermeiros docentes no uso de metodologias ativas de ensino em um curso de nível técnico em enfermagem no período da pandemia da Covid-19. Método: relato de experiência realizado docentes do Curso Técnico de Enfermagem da Faculdade Senac Saúde e Beleza de Florianópolis/SC. Resultados: a ferramenta tecnológica para transmissão de aula remotas e também para o desenvolvimento de atividades utilizada foi a do Microsoft Teams®. Dentre as metodologias ativas de ensino utilizadas estavam a sala de aula invertida, aprendizagem baseada em equipe, aprendizagem baseada em projeto, debates clínicos com base em casos, utilização do Prontuário Eletrônico disponível na instituição, o Dart Sim-Dart ECG®. Posteriormente, a simulação em atividades híbridas em laboratório. Conclusão: a adesão às metodologias ativas de ensino no período da pandemia estimulou o desenvolvimento de novos modelos de ensino que incluíram as tecnologias de informação e colocaram para trás as práticas tradicionais de ensino-aprendizagem.

Descritores: Enfermagem; Ensino; Covid-19; Docentes de Enfermagem; Tecnologia.

ABSTRACT | Objective: to report the experience of teaching nurses in the use of active teaching methodologies in a technical-level course in nursing during the Covid-19 pandemic. Florianópolis/SC. Results: the technological tool for transmission of remote classes and also for the development of activities used was Microsoft Teams®. Among the active teaching methodologies used were the flipped classroom, team-based learning, project-based learning, clinical debates based on cases, use of the Electronic Health Record available at the institution, the Dart Sim-Dart ECG®. Subsequently, the simulation in hybrid activities in the laboratory. Conclusion: adherence to active teaching methodologies during the pandemic period stimulated the development of new teaching models that included information technologies and put traditional teaching-learning practices behind.

Keywords: Nursing; Teaching; Covid-19; Nursing Teachers; Technology.

RESUMEN | Objetivo: relatar la experiencia de enfermeros docentes en el uso de metodologías activas de enseñanza en un curso de nivel técnico en enfermería durante la pandemia de la Covid-19, Florianópolis/SC. Resultados: la herramienta tecnológica utilizada para la transmisión de clases a distancia y también para el desarrollo de actividades fue Microsoft Teams®. Entre las metodologías de enseñanza activa utilizadas se encuentran el aula invertida, el aprendizaje en equipo, el aprendizaje basado en proyectos, los debates clínicos basados en casos, el uso de la Historia Clínica Electrónica disponible en la institución, el Dart Sim-Dart ECG®. Posteriormente, la simulación en actividades híbridas en el laboratorio. Conclusión: la adhesión a metodologías activas de enseñanza durante el período de pandemia estimuló el desarrollo de nuevos modelos de enseñanza que incluyeron tecnologías de la información y dejaron atrás las prácticas tradicionales de enseñanza-aprendizaje.

Palabras claves: Enfermería; Enseñando; COVID-19; Profesores de Enfermería; Tecnología.

Cátia da Silva Rodrigues

Nurse, Specialist in ICU, Urgency and Emergency, Technical Nurse in Charge and Coordinator of Courses in the Well-being, Health and Safety Axis, National Commercial Learning Service – Senac, Health and Beauty Unit, Florianópolis, Santa Catarina, Brazil.

ORCID: 0000-0001-6245-7338

Barbara Letícia Dudel Mayer

Nurse, PhD in Nursing from the Federal University of Santa Catarina, Professor of the courses in the health area of the National Service of Commercial Learning – Senac, Health and Beauty Unit, Florianópolis, Santa Catarina, Brazil.

ORCID: 0000-0003-4848-9450

Fahima Pinto Rios

Librarian, Master in Management of Information Units from the State University of Santa Catarina, Librarian at the Senac Saúde Beleza unit, Florianópolis, Santa Catarina, Brazil.

ORCID: 0000-0003-1510-2336

Joice Iahn

Nurse, Specialist in Emergency and Intensive Care Unit at Universidade do Sul de Santa Catarina and Lecturer in Vocational Education at the National Learning Service - Senac, Professor of health courses at Senac Saúde Beleza, Florianópolis, Santa Catarina, Brazil.

ORCID: 0000-0002-0044-2349

INTRODUCTION

The Covid-19 pandemic has had numerous social, economic and political consequences in the world. In Brazil, this scenario would not be different, especially when it comes to the context of education. In March 2020, with the definition of a lockdown, educational institutions needed to adapt to a new scenario, which was the restructuring of the teaching-learning method. The face-to-face activities started to take place remotely, and this also affected the courses in the area of health and nursing, at technical and higher levels. ⁽¹⁾

Ordinances published by the Ministry of Education and Culture (MEC - Ministério da Educação e Cultura) allowed the continuity of teaching, through remote classes and the

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use of information and communication technologies (ICTs). They made it possible to share and store information from mass media and their use met a need in the pandemic moment, when everyone needed to be at home, and at the same time continue their studies. With regard to the area of nursing, the lack of professionals to work during the period of the pandemic grew dramatically and educational institutions had students in the initial, intermediate and course completion stages.

In view of this, the teaching-learning process in the area of health and nursing was drastically modified, the professors - who were also nurses and who worked on the front line in the fight against the pandemic, had to remodel the teaching methodology through the use of educational technologies in remote environments. The search for innovative teaching methods arises to meet an urgent need, to overcome the limits imposed by the Covid-19 virus, mainly, to complete the course in cases of final stages and to continue the training process for the other stages.

It is evident then the use of active teaching methodologies, that is, which are guided by problematization, which instigate learning in a critical-reflexive way, providing the student with the leading role in their training process, even if in remote mode, inside your home. Active methodologies are used through programmed theoretical content. Some were already known in the field of nursing, such as problem-based learning, peer or group learning, case studies, flipped classrooms, technical skills training, simulations, problem-solving methodology, game- and project-based learning, dramatization, among others.⁽²⁾

With the advent of the pandemic, the applicability of active teaching methodologies became a way for remote teaching to be more welcoming, human, creative, interesting, attractive and to add value in the student training process. For teachers, uniting the remote teaching modality and active teaching methodologies, experiencing assistance in the pandemic, was at least challenging.

In view of the above, this article aims to report the experience of nurses, teachers, in the use of active teaching methodologies in a Technical Nursing course during the Co-

vid-19 pandemic period.

METHOD

The present study is characterized by an experience report of Nurses teaching the Nursing Technical Course at Faculdade Senac Saúde e Beleza de Florianópolis/SC, linked to Senac Santa Catarina, in the development of active teaching methodologies during the Covid-19 pandemic period. March 19 to December 2021, when classes were adapted to the remote modality, aiming to guarantee access and continuity of the training process.

Remote teaching proved to be challenging from the first moment, when everyone went into lockdown and needed to organize their activities within the home environment. It was necessary to adjust a space inside the house so that the computer and classes with an open camera and microphone would not invade the privacy of each household. It was necessary to understand the complexity of information from the class transmission tools for greater mastery, clarification and, mainly, adjustments in classes that from that moment on would not happen in person, with human contact, but rather, remotely, often with closed cameras, microphones on silent, and only the computer screen to interact silently.

On the other hand, there were students with their different needs, health, environment, economic and social, access to technology through a computer, or cell phone, of an internet signal that would support the remote class time, the development and the sending of activities.

Both with different needs and a single objective, the construction of health knowledge for the training of new health professionals. As effects of the guidelines of the National Curriculum Guidelines, teaching institutions needed to transform the educational model in the area of Nursing, for a tendency to reduce lectures and the expansion and diversification of different teaching methodologies, with an emphasis on active methodologies and the use of educational technologies, with the aim of developing active, self-directed and team-based learning.⁽³⁾

In this scenario, in the remote teaching of

the Technical Course in Nursing at Faculdade Senac Saúde e Beleza, the technological tool used for remote class transmission and also for the development of activities was Microsoft Teams®. This tool is part of the office package, officially used by the educational institution. It is important to emphasize that the institution was gradually implementing the use of Teams®, mainly to facilitate interaction between students, professors and technical/pedagogical staff, coordination for its internal communication. To raise awareness and engage the use of the tool, several communications were sent to classes and students were already carried out via Teams®, however, it was still going through a phase of implementation and adherence of teachers and students.

Microsoft Teams® is part of a Microsoft 365 package, and offers ways to enable remote, virtual learning, providing tools that promote interaction between students and teachers. It is also a platform and can be used from a desktop, notebook, tablet or mobile device such as a smartphone.⁽⁴⁾

Other tools used in the period of the pandemic for the transmission of remote classes are pointed out by the literature. This is the case of Moodle® platforms, HangoutsMeet®, from the Google Forms® application and the Virtual Learning Environment-AVA. Moodle® is the acronym for Modular Object-Oriented Dynamic Learning Environment, which means modular object-oriented dynamic learning environment, characterized as free software, to support learning, executed in a virtual environment. HangoutsMeet® is a communication platform developed by Google, which includes instant messaging, video chat, among other features. Video calls can take place via cell phone or computer. Google Forms® is a survey management application included in the Google Drive® office suite that features all the collaboration and sharing features found in documents, spreadsheets and presentations.⁽⁵⁾ Ava is a facilitator in the teaching-learning process, where activities are carried out from a problematizing perspective, reflecting changes in the way of teaching and learning in cyberspace, as well as changes in the relationship between



en teacher and student. ⁽⁶⁾

In this sense, quickly learning to use different technological tools to carry out remote classes has become the number one need for teachers and students. So, even with the use of Teams® for internal communications, the moment was now challenging for enabling remote online classes, where everyone was at the same time, in the same virtual room, learning to handle cameras and microphones and, also, learning to deal with the loss of human contact provided by the face-to-face classroom.

After a period of adaptation to the tool, it became clear the need to change the methodology of the class for an active teaching, which involved the student, attract his attention, keep him actually connected by the content that was being addressed, even with all the difficulties and distractions of the home environment.

Active Learning Methodologies are understood to be a set of didactic procedures centered on the student, expressed by teaching methods and techniques with a strong collaborative and participatory character, having the teacher as a mediator, in order to achieve teaching objectives and provide meaningful learning experiences. It is possible to affirm that the perspective of active learning requires that the student is the center of the teaching and learning process and the teacher is the mediator of learning. ⁽⁷⁾

Therefore, among the active teaching methodologies, Nurses teachers used the inverted classroom, with recorded video lessons, available for later synchronous online discussion. This strategy allowed students to attend class at an opportune time, according to their availability, considering that during the pandemic, the time available was divided between daily activities, at home, and teaching and work activities. Thus, students accessed and used learning activities related to the class, before watching it remotely, on their computers, smartphones or tablets.

Discussions of cases in the remote room online, through videoconferencing, was also one of the strategies used. Initially it was a challenge for teachers and students, with the opening and closing of camera and cell pho-

ne. However, later on, everyone joined and became more familiar with it and ended up becoming a channel for sharing knowledge and experiences in the classes.

The problem-based learning methodology was also widely used by teaching nurses, which represents a set of educational actions that favors the construction of new knowledge based on a motivating problem-situation in the nursing area. Here the students were or-



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ganized into small groups to solve a problem situation of a patient with some health-disease condition. It was necessary to develop critical-reflexive reasoning, gather previous knowledge, formulate questions and suggest nursing interventions. In this scenario, the teacher was a facilitator of learning, developing the role of the student in the teaching-learning process.

Another methodology used was team-ba-

sed learning, in which the class was divided into different remote rooms to encourage collaborative learning and the sharing of ideas. The students were prepared for the activity, knowing the theme and the proposal for the development of the class, later they were divided into different rooms to develop the class activity and later they returned to the large room for the presentation of the activity. Here, normally each group had a case related to the subject of the class and needed, as a team, to solve the care problems of the case. Thus, students could do research on the pathologies as a team, review class content, debate among themselves to carry out group decision-making, as well as solve the case as a team.

It should be noted that the Nursing Technician course at Senac Saúde e Beleza includes a research unit called the Integrating Project. This aims to integrate knowledge from all phases for the development of a project that brings solutions to the health and nursing sector.

The Project Methodology is a pedagogical alternative that privileges the dialogic relationship and collective learning. It starts from the concept that one learns in communion, in experiences and experiences of collaborative construction, when assuming responsibilities in joint actions and promoting the student's protagonism in the face of problematizing situations. Learning takes place through the experience provided during the development of the project, that is, one learns by problematizing, researching, testing hypotheses, making decisions and acting as a team to achieve the objectives. ⁽⁸⁾

During the pandemic period, students carried out this unit with the development of educational measures about patient safety. The students defined the integrative project autonomously and in a cooperative way, together with the teacher in the role of mediator. The activity comprised a theoretical part carried out by the working groups and in the resumption of hybrid and face-to-face activities, they were put into practice, being applied with the target audience of the project. This type of teaching-learning activity is also known as project-based learning.

Also, among all the active teaching methodologies, clinical discussions based on cases were used, the use of the Electronic Patient Record, technology available in the institution since 2019 and the Dart Sim-Dart ECG®, a teaching software that has an interface and simulates a defibrillator and electrocardiogram rhythms through the multiparameter monitor.

Later, with the gradual return to face-to-face activities, blended learning was adopted, mainly for practical activities in a simulation laboratory. In this model, the student learned part of the class content on the Teams® platform with online teaching, and later performed the nursing care practice in the laboratory.

Blended learning proved to be an interesting strategy to be used in the gradual return of face-to-face activities, since they were programmed activities, everyone received and used personal protective equipment, they resolved doubts about the remote and virtual environment, carried out the theoretically learned practice, and interacted with people beyond the family circle.

Finally, there was the context of the subject evaluation, which needed to be carried out in order to measure the knowledge of each student. Assessments were launched or built within the Teams® platform with several

possibilities for developing questions (open, closed, with images and animations), conducting research, elaboration of mind maps, as well as uploading written works and making short videos stimulated by the TikTok® and Instagram® wave, with the approach of the studied themes.

In this sense, the social distancing that was important at the height of the pandemic was necessary and, consequently, the active teaching methodology, yes, became the pedagogical strategy that most encouraged the development of teachers and students, helping to understand cognitive aspects, socioeconomic, affective, political and cultural.⁽⁶⁾

It should be noted that moments of crisis generate searches, whether for knowledge, for interpersonal relationships, for new proposals and teaching-learning models. The period of the pandemic required that teaching nurses to overcome the profile of expository classes, with exercises and tests and adhere to active methodologies for students' adherence to classes, for the construction of health knowledge in a more attractive and effective way.⁽⁹⁾

CONCLUSION

This article contextualizes the importance of adhering to active teaching methodologies

developed in a Technical Nursing course during the covid-19 pandemic in Brazil. It was evident that everyone had to adjust and adapt to the necessary changes so that the training of essential health professionals, such as Nursing Technicians, had continuity, with guaranteed access and quality in training. In this sense, a task force of Nurse Teachers, Nurse Coordinators, was necessary so that teaching in the remote modality did not lose quality during this process.

Also, adherence to active teaching methodologies in an expanded way during the pandemic period stimulated the development of new teaching models that included information and communication technologies, putting behind traditional teaching-learning practices.

Currently, with fully face-to-face classes, teaching has an expanded character, which did not abandon the successful experience experienced in the pandemic, but rather incorporated it into teaching, making it multi-sensory, motivating, dynamic, which stimulates reflection, generates the socialization of knowledge and develops care practice in the form of simulation in the laboratory and within health institutions.

Referências

1. Jansen RC, Oliveira VC, Nogueira MRN, Silva IC, Ferreira JESM, Cavalcante TF, et al. Tecnologias educacionais no ensino da enfermagem durante a pandemia por Covid-19. *RevEnferm Atual In Derme* (Internet). 2021 (citado 2022 set. 27); 95(36): e-021154. DOI: <https://doi.org/10.31011/read-2021-v.95-n.36-art.1233>
2. Fontes FLL, Bezerra AMFA, Silva HLL, Santo IMBE, Marques TMC, Morais MJA, et al. Use of active methodologies in the Nursing graduation course: an opportunity to overcome the traditional teaching model. *Research, Society and Development* (Internet). 2021 (citado 2022 set. 27); 10(1):e35410111774. DOI: <http://dx.doi.org/10.33448/rsd-v10i1.11774>
3. Silva DSM, Sé EVG, Lima VV, Borim FSA, Oliveira MS, Padilha RQ. Metodologias ativas e tecnologias digitais na educação médica: novos desafios em tempos de pandemia. *Rev. Bras. Educ. med.* (Internet). 2022 (citado 2022 set 27); 46(2):e058. DOI: <https://doi.org/10.1590/1981-5271v46.2-20210018>
4. Silva, EMP, Mourão PL, Carvalho JWP, Souto, DLP. Perceptions of teachers-trainers about Microsoft Teams multiplatform in remote teaching. *Zeiki* (Internet). 2022; 3(1): 5-23. Disponível em: <https://periodicos2.unemat.br/index.php/zeiki/article/view/5843/4814>
5. Silva MMJ, Panobianco MS, Clapis MJ. Tecnologias da informação e comunicação no ensino de pós-graduação em enfermagem na pandemia de Covid-19. *Rev Min Enferm* (Internet). 2021 (citado 2022 set 27); 25:e-1368. DOI: 10.5935/1415.2762.20210016
6. Lobo ALSF, Santos AAP, Comassetto I, Farias MMPC, Silva NL. Uso de metodologias ativas no ensino de enfermagem durante a pandemia pelo COVID-19: uma revisão integrativa. *Research, Society and Development* (Internet). 2022 (citado 2022 set 27); 11(1):e14911124901. DOI: <http://dx.doi.org/10.33448/rsd-v11i1.24901>
7. Serviço Nacional de Aprendizagem Comercial. Metodologias ativas de aprendizagem. Rio de Janeiro: Senac, 2018.
8. Serviço Nacional de Aprendizagem Comercial. Projeto Integrador. Rio de Janeiro: Senac, 2015. 36 p.
9. Silva MCTM. Estratégias educacionais no ensino técnico em enfermagem durante a pandemia por COVID-19. *Saúde coletiva* (Internet). 2021 (citado 2022 set 27); 11(64):5748-5752. DOI: <https://doi.org/10.36489/saudecoletiva.2021v11i64p5748-5757>