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Application of active methodologies for nursing teaching in the midst of the COVID-19 pandemic

Aplicação das metodologias ativas para ensino de enfermagem em meio à pandemia de COVID-19
Aplicación de metodologías activas para la enseñanza de enfermería en medio a la pandemia del COVID-19

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ABSTRACT
Objective: To report the application of active methodologies for nursing teaching in the midst of the COVID-19 pandemic. **Methods:** This is an experience report of lived situations in the Nursing Fundamentals Laboratory discipline at a Public University in Fortaleza-CE. **Results:** Multi-methods were used, such as online classes and games, case studies, realistic simulation, portfolio development and videos with the Nursing procedures addressed in the course. The various strategies were necessary to collaborate with the construction of knowledge during the pandemic, since the hybrid teaching model was used. **Conclusion:** It appears that the various technological methods, such as the virtual room, WhatsApp as a quick communication tool, the elaboration of the portfolio and the use of videos and online games, case studies and realistic simulation, were used in a complementary and integrated way, becoming favorable for students, as they are part of a generation that is more comfortable using technologies and are receptive to multi-method learning.
Descriptors: Nursing Education. Teaching. COVID-19.

RESUMO
Objetivo: Relatar a aplicação das metodologias ativas para o ensino em enfermagem em meio à pandemia de COVID-19. **Métodos:** Trata-se de um relato de experiência das vivências na disciplina de Laboratório de Fundamentos de Enfermagem de uma Universidade Pública em Fortaleza-CE. **Resultados:** Utilizou-se multimétodos, como aulas e jogos *online*, estudos de caso, simulação realística, elaboração de portfólio e vídeos com os procedimentos de Enfermagem abordados na disciplina. As diversas estratégias foram necessárias para colaborar com a construção do conhecimento durante a pandemia, uma vez que se utilizou do modelo híbrido de ensino. **Conclusão:** Constata-se que os vários métodos tecnológicos, como sala virtual, o *WhatsApp* como ferramenta de comunicação rápida, a elaboração do portfólio e a utilização de vídeos e jogos *online*, os estudos de caso e a simulação realística, foram utilizados de forma complementar e integrada, tornando-se favoráveis para os alunos, pois eles fazem parte de uma geração que tem maior facilidade em utilizar tecnologias e são receptivos a multimétodos de aprendizagem.
Descritores: Educação em enfermagem. Ensino. COVID-19.

RESUMÉN
Objetivo: Reportar la aplicación de metodologías activas para la enseñanza de enfermería en medio de la pandemia por COVID-19. **Métodos:** Se trata de un relato de experiencia de experiencias en la disciplina Laboratorio de Fundamentos de Enfermería en una Universidad Pública de Fortaleza-CE. **Resultados:** Se utilizaron multimétodos, como clases y juegos en línea, estudios de caso, simulación realista, desarrollo de carpetas y videos con los procedimientos de Enfermería abordados en el curso. Las diferentes estrategias fueron necesarias para colaborar con la construcción del conocimiento durante la pandemia, ya que se utilizó el modelo de enseñanza híbrido. **Conclusión:** Parece que los diversos métodos tecnológicos, como la sala virtual, el WhatsApp como herramienta de comunicación rápida, la elaboración del portafolio y el uso de videos y juegos en línea, los estudios de casos y la simulación realista, fueron utilizados de forma complementaria e integrada, tornándose favorable para los estudiantes, ya que son parte de una generación que tiene más facilidad con las tecnologías y son receptivos a los múltiples métodos de aprendizaje.
Descriptores: Educación en Enfermería. Enseñanza. COVID-19.

INTRODUCTION

Virtual and technological strategies inserted in Nursing teaching are perceived as important and necessary due to the demand for information and the complexity involved in this process. Such information is processed at an astonishing speed, which demonstrates the need for the appropriation of instruments and tools in teaching capable of accompanying this constant evolution.[1]

The pandemic caused by the new type of Coronavirus, called COVID-19, has fostered the need for social distancing as a way to reduce contagion rates, which has generated a demand for new teaching strategies.[2] Due to these consequences, the technological expansion has become indispensable for education during the suspension of in-person classes.

This period demanded that Nursing professors be innovative, flexible, agile, thus being challenged to change their way of teaching, grading and offer alternative clinical experiences from the face-to-face model to the online.[1,2] Thus, the digital medium was one of the most used tools. However, turning these learning processes into something meaningful, in a substantive and non-arbitrary way, has become a challenge, as making previous experiences of the student body with other types of related digital technologies could be the key to reducing the problems arising from the non-interaction of Distance Learning (DL).[3]

Thus, the significant learning of David Ausubel advocates that each student has previous knowledge to the classroom, lives and relates with them on a daily basis. They are individual, family and social sensations and empirical experiences, and from these subsuming paradigms, go towards the building of new knowledge in a meaningful and relevant way in the structure of the self. The teacher, as the master of the teaching-learning process, needs to recognize, understand and connect these structures of consciousness in the classroom.[4]

In this context, as ways of improving the teaching method and creating a significant pedagogical environment, stand out the use of active methodologies that consist of problem-based learning, pedagogy of problem-posing, case studies, reflective and interdisciplinary groups, tutoring and facilitation groups, group exercises, seminars, critical experience reporting, round tables, socialization, plenary sessions, dialogued expositions, thematic debates, recommended reading, workshops, film presentations, musical interpretations, dramatizations, ludic-pedagogical dynamics, portfolios, oral evaluation and conversation circles, among other modalities.[5]

Rethinking the way of teaching involves understanding the learning relationship between generations X, Y and Z, given that, in the in-person modality, students aged between 19 and 23 years old, on average, and teachers aged 40 years old coexist. In this context, individuals from different generations need to socialize and develop teaching-learning strategies that include different audiences.[6] Therefore, in this pandemic period, it was necessary to explore different teaching-learning methods, in addition to the acceptance capacity of those involved in the process.

Teachers need to implement pedagogical perspectives that involve the students' social and cultural environment, valuing the previous road covered by them. One cannot conceive of the student as a blank page, a void, and that the University will fill their interior with a mere transfer of knowledge and formalist knowledge. Meaningful learning is a method that intends to intercede between antecedent knowledge and teaching.[7]

Within meaningful learning, the use of active methodologies favors this connection because they are forms of learning that value the subject: they place the student in a position of protagonism in the classroom. It refers, therefore, to the communion of two connected ways of thinking about teaching and which, in times of pandemic, of social isolation, can resolve the barriers of loneliness.[4]

The National Curriculum Guidelines, responsible for recommending Nursing teaching, state that teaching should stimulate clinical, logical and critical reasoning, in addition to enabling technical-scientific, ethical-political and socio-educational experiences[8], and it is essential to rethink new ways of teaching-learning. As adjustments of actions were required in the face of the pandemic, this report presents itself as innovative, as these adjustments were necessary in the way of teaching basic Nursing procedures from a hybrid teaching model due to the pandemic.

In view of the above, the objective was to report the application of active methodologies for teaching academic Nursing in the midst of the COVID-19 pandemic.

METHODS

This is an experience report about the teaching strategies used, in the first and second semesters of 2021, in the mandatory discipline of Nursing Fundamentals Laboratory, of the undergraduate Nursing course at Universidade Federal do Ceará, Fortaleza-CE .

The discipline is based on theoretical-practical teaching, totaling a workload of 96 hours, with 48 hours of theoretical classes and 48 hours of practical classes, carried out in the skills laboratory of the Department of Nursing, conducted by three professors, two assistant nurse facilitators and two monitors.

Respecting the context of the COVID-19 pandemic, the discipline took place in a hybrid way, with theoretical classes taught synchronously by Google Meet, lasting from one and a half to two hours. It is noteworthy that this synchronous meeting was recorded and the access link was made available to students for later consultations. As for the asynchronous meetings, it was up to the student to decide when to carry out the activities, according to the schedule. Case studies and the elaboration of a portfolio were used through the problematization of patients diagnosed with COVID-19, in a way that covered all the contents addressed in the discipline.

The remote teaching platform used was Google Classroom, a Gmail tool that translated into a virtual

class, linked to the institution's email and institutional platform. The Integrated Academic Activities Management System allowed the storage of content, discussion forum and delivery of activities. A WhatsApp group was also created and used as a quick communication tool between monitors and students. With the authorization of health and institutional bodies, practical activities were carried out in person and took place in compliance with current health recommendations.

The course's competencies are the development of skills for the Nursing care process, involving contents of the profession's basic procedures, being the first curricular contact with Nursing technical procedures, such as: Hospital infection and control measures; Drug administration: preparation, routes and application techniques; Nursing assistance for serum therapy and fluid balance needs, comfort and hygiene needs, exercise and locomotion needs, nutrition and dietary needs, urinary and intestinal elimination needs, oxygen therapy, aerosol therapy and airway aspiration needs, physical integrity needs: wound care. Finally, assistance in terminal care and death.

So that the practices could take place, the academics were divided into groups of six people and distributed in classrooms and laboratories of the Department of Nursing. These practical classes had a workload of six hours per week.

As a reference for each practice, it was decided to use the Standard Operating Procedures (SOP), which describe the Nursing techniques, guaranteeing the performance of assistance in a standardized way. It should be noted that the SOP were prepared by the subject's teachers to be made available to students, in order to facilitate the conduction and performance of the aforementioned procedure.

In addition to the use of SOP, the professors of the discipline presented clinical cases that described the patient's complaints, the diagnosis and the medical prescription. Moreover, the monitors, supervised by the teachers, produced videos demonstrating the procedures taught in the discipline.

As evaluative criteria, a theoretical test was carried out with multiple choice questions applied online through the Socrative platform and the making of the portfolio, sent through the virtual room.

For the theoretical interpretation of the learning context, the framework of meaningful learning, by David Ausubel, was used, due to its cognitive nature, which believes in learning through experiences and lived situations prior to the classroom. This is in line with the way of perceiving and feeling the teaching-learning process of the professors of the discipline. The student does not behave like a blank page, an unwritten notebook that needs the teacher to "start" their cognition process. In reality, the student "means" and "re-signifies" what they learn in class with their environment, their family, social and cultural context.[9]

As it is an experience report of the authors, without exposure of subjects or sensitive data, there was no need for the study to be considered by the Ethics Committee, according to Art. 1, VII, of Resolution 510 of April 7, 2016, of the National Research Council (CONEP).

RESULTS

As complementary material, the teachers and monitors of the discipline built several online games on the Wordwall platform, which involved the separation of material and the sequence of the procedure through different designs that the platform allowed, such as: spot the difference games; crosswords; word search puzzle; diagram with photo of procedural materials to correlate the illustration with the steps of the procedure. The purpose of the games was to assist in setting/memorizing the steps for carrying out the Nursing procedures presented in the course.

These games were sent through the link, via the WhatsApp application, the day before the practical classes related to each subject that would be addressed and, after practice, for students to evaluate their assimilation, progress or difficulties. The average duration of the game was 10 minutes, performed individually.

At the end of the course, a realistic simulation was performed. The Clinical Scenario Simulation Guidelines for Nurse Training were used: Step 1: Define learning objectives; Step 2: Identify the fidelity level; Step 3: Use evidence-based references; Step 4: Incorporate instructions, facilitator and suggestions, and Step 5: Time for debriefing or guided reflection.[10]

From these conceptions, within a constructivist foundation, we sought to empower students to develop skills to provide assistance in order to meet the needs of the client in an individualized and adaptable way, incorporating into their care reflections of life and existence in the world. Effective learning occurs when the interaction between teacher and student is promoted in an environment where knowledge is positively constructed, integrating action and emotion in a single moment.[4]

Another strategy was the realistic simulation. This allows the immersion of the student in simulated situations that favor their performance as a nurse. Then, it guides the student to the real scenario in a controlled environment, a rehearsal of what they will face in the future, allowing them to understand what happens and make mistakes while they are still a students.[11]

The performing of the realistic simulation was an impactful moment, since the student gets closer to the real, providing opportunities to expand learning through the problem situation, in addition to stimulating logical reasoning and the development of skills.

Regarding the portfolio, it appears that the method is more preferable at home, and can be applied in the clinic. It favors self-learning and provides a constructive teacher-student relationship.[12]

In this context, professors and students can teach and learn together in different ways, such as case studies, scientific research, questions with problems

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and real cases that can be transformed into active methodologies.[13]

The use of these methodologies, for the teacher, was challenging to characterize the discipline as more attractive and dynamic for the student and demanded that this professional provoke in the student active actions for learning. Students perceived these strategies as relevant to the pandemic context. Another important aspect was that digital use is a medium they dominate with great affinity, since they were all born in the 1990s and 2000s.

DISCUSSION

The theoretical framework of the discipline is based on the theory proposed by Wanda de Aguiar Horta, guided by the laws of balance, adaptation and holism, with a focus on the expression of basic human needs that have the ability to change the balance.[14]

In this theoretical model, it is possible to apply and realize that individualized and systematized actions, in addition to a specialized clinical identification adaptable for each individual, can be applied in different scenarios.[15]

Due to the COVID-19 pandemic and in the interest of continuing the discipline, different active methodologies are applied in order to re-signify the way of learning, making it expressive and considerable for the student, who assumes a proactive role, and has the teacher as a facilitator.[16]

An attempt was made to re-signify the view of the teaching-learning process beyond the generational configuration, being essential that teachers encourage students to develop a critical sense and overcome difficulties in the face of technological and scientific connection, in addition to appropriating the conceptual relations of their future professional practice.[3-4]

It is considered that the use of these methodologies optimizes the study, it becomes fundamental to attract the attention and interest of the students. Studies report that the application of games improves students' perception and engagement in disciplines.[17]

In recent research, it is stated that the excess of lectures of a theoretical nature makes the content uninteresting and tiring.[18] In the literature, scholars state that teaching Nursing in a playful way fosters the construction of knowledge in a light and collaborative way and provides satisfaction to students.[19]

Such considerations reinforce the need to rethink the way Nursing is taught, not only in this pandemic period, which required reinventing teaching methods to ensure student learning, but as the necessary action of different teaching-learning methods.

In this scenario, the academic relates theory to practice, reproduces clinical situations in a controlled environment, being able to make mistakes without causing real harm to patients or students,[20] creating a space for critical reflection and knowledge construction. In this way, it contributes to reducing the fear, anguish and insecurity of the future professional, who will have already seen similar situations while a student, since the execution of the simulation involves controlling their emotions and favors the development of their emotional maturity.

The COVID-19 is an ongoing crisis, it is a real-time lesson in equity, leadership, social justice, ethics and patient care, and it will forever change the educational landscape as it relates to rethinking new ways of teaching and learning to ensure the acquisition of skills for the student.[21]

Thus, the training of nurses involves the emergence of interface technologies that combine the physical with the digital and that expand the debate, the exchange of experiences, interaction, reflection and critical thinking for the use of this medium in the student's training process.[15]

As a limitation of the study, it appears that the report only describes the experience of those responsible for the discipline and their monitors, with no student perception, since the teaching process involves students and educators.

As a contribution, this report encourages the reader who is in teaching practice to rethink the multi-methods of teaching that can be applied in their discipline. As for the observed impacts, there was greater student engagement and motivation. They realized that the different methods allowed the development of critical thinking.

CONCLUSION

From this experience, it was possible to motivate the teacher to review their ways of teaching and to seek different methods to provide the student with multiple learning strategies. In the authors' view of the future of nursing education, it implies more dynamic strategies that place students as protagonists of their learning, capable of exercising skills in the field of attitude.

The importance of the teacher and the student in the teaching and learning process in active methodologies was highlighted, as this stood out as an essential tool in the scenario of the COVID-19 pandemic. Several strategies were needed to collaborate with the construction of knowledge during the pandemic, since the hybrid teaching model was used.

It is verified that the various technological methods, such as the virtual room, synchronous classes through the Google Meet platform, WhatsApp as a quick communication tool, the elaboration of the portfolio and the use of videos and online games, case studies and realistic simulation, were used in a complementary and integrated way, becoming favorable for the students, as they are part of a generation that is more familiar with the use of technologies and are receptive to multi-methods of learning. It is considered, therefore, that the application of active methodologies was positive in favoring the development of the competencies proposed by the discipline and optimizing communication between the different generations.

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