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Use of information and communication technologies in academic nursing tutoring based on active methodology

O uso das tecnologias da informação e comunicação na monitoria acadêmica de enfermagem com base na metodologia ativa

El uso de las tecnologías de la información y la comunicación en el monitoreo académico de enfermería basado en la metodología activa

Abstract

Objective: to report on the experience of implementing an academic nursing tutoring during the COVID-19 pandemic using information and communication technologies (ICTs). **Methodology**: this is a descriptive, qualitative experience report on the activities developed by nursing tutoring during social distancing regarding the use of digital technologies in health education, mobilizing the theoretical framework, active methodology and technologies. **Results**: pedagogical content was developed by using digital tools in health-related knowledge production, as well as interaction and social inclusion in education. **Conclusion**: scientific review, interpersonal interaction, development of research and teaching skills and competencies allowed the participating students to improve their academic education and even awaken their appreciation for teaching and learning.
Descriptors: Nursing; Information and Communication Technologies; Tutoring.

Resumo

Objetivo: relatar a experiência do processo de implementação da monitoria acadêmica de enfermagem durante a pandemia de covid-19, utilizando as Tecnologias da Informação e Comunicação (TICs). **Metodologia**: estudo descritivo e qualitativo na modalidade "relato de experiência" sobre as atividades realizadas na monitoria de enfermagem no período de isolamento social acerca do uso de tecnologias digitais na educação em saúde, pautado pela interação do referencial teórico, metodologia problematizadora de ensino e tecnologias. **Resultados**: desenvolvimento de conteúdo didático, empregando as ferramentas digitais na produção de conhecimento em saúde, além da interação e inclusão social na educação. **Conclusão**: através da revisão científica, interação interpessoal e desenvolvimento de habilidades e competências na área de pesquisa e docência, as alunas participantes aprimoraram sua formação acadêmica e, ainda, despertaram em si a valorização do ensino e do aprendizado, bem como a prática da carreira docente.
Descritores: Enfermagem; Tecnologias da Informação e Comunicação; Tutoria.

Resumen

Objetivo: relatar la experiencia del proceso de implementación del seguimiento académico de enfermería, en tiempos de la pandemia del covid-19 mediante las tecnologías de la información y la comunicación. **Metodología**: estudio descriptivo y cualitativo, en forma de informe de experiencia, sobre las actividades realizadas en el acompañamiento de enfermería durante el período de aislamiento social, utilizando tecnologías digitales en la educación en salud, orientado por la interacción del marco teórico con la técnica de problematizar la enseñanza y las tecnologías. **Resultados**: producción de contenidos didácticos utilizando herramientas digitales en la producción de conocimiento en salud, interacción e inclusión social en educación. **Conclusión**: desde la revisión científica, la interacción interpersonal y el desarrollo de habilidades y competencias en el área de la investigación y la docencia, las estudiantes participantes mejoraron su formación académica e incluso despertaron en sí mismas el aprecio por la enseñanza y el aprendizaje, así como la práctica de la docencia como carrera profesional.
Descriptores: Enfermería; Tecnologías de la Información y la Comunicación; Tutoría.

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INTRODUCTION

Education at the University level, particularly in the undergraduate programs in the field of health science, has fostered discussions about the use of new technologies in order to seek new teaching strategies to educate skilled and competent healthcare professionals who master not only the technical and scientific aspects [1]. Hybrid methodologies in education represent a response to the need for flexibility in the teaching and learning process. Before the need of the society to interact, even while experiencing social isolation, the use of digital technologies in education has allowed the development of new ways of learning and teaching, with practices of experimentation and immersion in the educational environment [2]. Thus, this study aims to report the experience of implementing academic mentoring in nursing during the COVID-19 pandemic, using Information and Communication Technologies (ICTs).

Implemented in Brazil on March 11, 2020, the first social distancing measures caused by COVID-19 marked the beginning of a new period in Brazilian education and directly impacted the population's health. The presented scenario led Higher Education Institutions (HEIs) to face new challenges in their educational processes. As a result, new educational experiences were lived by professors and students in some educational institutions, as it became mandatory for previously in person academic activities to transition to the remote reality, requiring the transposition of methodologies and pedagogical practices. Thus, the emergency remote educational strategy favored the discussion and reconstruction of educational methodologies. This adaptation in teaching demonstrates a momentary reversal of roles, as educators who previously assumed the role of oppressors now find themselves in the position of the oppressed and are compelled to learn about another dimension of the teaching and learning process, while maintaining the principles of liberating education [3].

Furthermore, the distance education modality has allowed the learning process to extend beyond the physical educational structure, with classrooms filled with chairs and students attentively listening to a teacher writing on the board, but rather it has expanded to an environment where students can construct their knowledge from wherever they are [4]. In distance education, teaching is rarely an individual act but rather a collaborative process, as students, through group discussions, clarify doubts for their peers, post comments, and share materials they find, promoting reflections on practices and foster individual and collective learning [4].

On the other hand, from a literary perspective, traditional education, called by Paulo Freire as banking education, is known for being based on the perspective of the professor "depositing" knowledge into the students [5]. This educational approach, which doesn't aim at truly "transmitting" knowledge, represents a proposal in which there is a conception of narration that is not structured or organized to be understood, but rather to impose upon the recipients of the message an understanding of their own ignorance, with the objective of keeping them in a state of oppression and seeking to legitimize domination through the alienation of ignorance, which is always attributed to the receiver, i.e., the student [6].

With the events experienced due to the pandemic of COVID-19, Brazilian education will no longer be the same, as traditional (banking) teaching will cease to be a reality. Several transformations have occurred in the dynamics and routine of education, and consequently, in the bond between students and teachers, bringing a new way of "doing education" [7]. The distance education modality has allowed the learning process to extend beyond its physical educational structure, enabling students to construct their knowledge from wherever they are, whether it's at home, work, or wherever he/she wanted [4], considering that education should be seen as the formation of students with competence and creativity, capable of managing their own freedom [8].

It is also worth noticing the active methodology, which is a method that represents

the integration of knowledge and aims to stimulate critical and reflective teaching and learning processes, in which students participate and engage with their own learning. It involves proactivity, the connection of learning, the development of reasoning, collaboration, and cooperation among participants [9]. Therefore, the application of an active methodology proves to be extremely beneficial in achieving refined and outstanding knowledge in today's world [10]. In the learning process, ICTs (Information and Communication Technologies) play a relevant role in making students active, as they bring methodological diversity and student-centered education, whether in hybrid learning or distance education. They provide the possibility of democratization and inclusion due to their flexibility in terms of access, cost, and time [11].

Furthermore, it is relevant to define academic monitoring, which is based on pedagogical work in which the supervising teacher is assisted by a monitor– who possesses expertise in a specific area of knowledgement – while the mester supports the monitor in the teaching and learning process. Participation in an academic monitoring program stimulates the student's interest in teaching and offers opportunities to deepen knowledge and strengthen relationships between the segments professor and student.

Among the requirements established for the student that is enrolled in the academic monitoring program are: being enrolled in the institution's undergraduate program, having completed and passed the subject of the selection, and demonstrating availability of time within their curriculum to fulfill the mentoring responsibilities [5]. As for the mentors' responsibilities towards the students, we can mention: facilitating the understanding of the subject matter through tools, optimizing communication among peers, addressing doubts, organizing study group meetings, delving into topics that will be important for the students, guiding students on study materials to be used, fostering the student's interest in the content of

the discipline, assisting teachers in their specific tasks, participating in meetings to discuss/ organize/plan the mentoring program and the module in question, attending classes related to the subject, preparing activities for the students, and assisting them in practical and laboratory activities [5].

The activities of academic monitoring are used as tools that enhance the teaching and learning process, which, due to current demands, needed to be reinvented to offer students new ways of learning various subjects. Therefore, it is through the expansion of experiences that these contribute to the training of students, and the development of teaching, that remote monitoring presents as a landmark initiative within the university, education stimulates the training of various skills in the student monitor and prepares them for the needs of the profession against the demands of the market.

Thus, it is necessary to explore the tools that technology has made available for the development of educational content. The internet, considered a platform that facilitates the participation of a large portion of the population, operates continuously and rapidly due to the transformations that have taken place in the fields of communication and of data processing. Around the world, teenagers, children, and adults use this medium to share subjective experiences and knowledge and to connect with each other regardless of the physical distance that separates them [12]. Then, the use of social networks as a means of communication for a socially isolated society has also allowed these digital technologies in education to support the development of new ways of learning and teaching, with practices of experimentation and immersion in the educational environment [2].

Object of many debates, Health Education in Higher Education has promoted discussions about the use of new teaching methodologies, in order to graduate skilled and competent healthcare professionals who possess technical and scientific knowledge [1]. Therefore, hybrid

methodologies in education represent a response to the need for flexibility in the teaching and learning process. Considered an active methodology, the Flipped Classroom has been implemented in various universities worldwide with the intention of making progress towards educational technologies [2].

According to Paulo Freire, accessing systematic knowledge, problematizing that knowledge, and seeking to understand what is beyond, that is learning. Through this process of problematization, the student assumes the role of protagonist in the construction and production of their own knowledge, while the educator creates possibilities and teaching strategies to guide the student in the construction and production of their learning [13]. Thus, the process of learning occurs when a student acquires, incorporates, and simultaneously transforms new knowledge, in addition to acquiring skills and competencies that previously did not exist [1].

In this perspective, the use of social media aligns with Freire's thinking, encouraging *dodiscence*, the learner's autonomy, and the knowledge exchange. Thus, this reference is the base for the construction of this study [13], as it is justified by highlighting monitoring as a teaching and learning modality that promotes and combines the triad of teaching, research, and extension. It also emphasizes the importance of using information and communication technology as a strategy for remote teaching and as an innovative approach that facilitates the teaching and learning process, contributing to the development and maturity of the students and strengthening the bond between theory and practice [14].

METHOD

This is an experiential account of the period between June 2021 and July 2022, regarding the implementation process of an academic monitoring project that developed its activities using Information and Communication Technologies (ICTs), during the period of social isolation due to Covid-19.

This report, guided by the interaction of theoretical references, presents a problematizing methodology of teaching and technologies, with a qualitative approach, and highlights subjective aspects of human beings, using observational and descriptive methods to examine the performance process of two undergraduate students and a coordinating professor from the Nursing undergraduate program in a remote nursing monitoring project, targeting sixth-semester classes in a private higher education institution.

This work will discuss the experience of using the technological tools provided by Instagram, for educational purposes exclusively aimed at the execution of student's monitoring, based on active teaching methodology, and for carrying out activities and producing content during social distancing.

The data analysis was performed through descriptive statistics, using simple frequency, retrospectively by checking at the meeting minutes, to the academic monitoring program, and to the Instagram account created by the academic-monitors. This was done in order to delve into the relevant actions to define the project's objective, the chosen strategies, and the results of interactions on the platform as they occurred throughout the project (Table 1).

Table 1 – Schedule of remote monitoring activities of nursing in June 2021

Phases	Activities	Strategies
Phase 1 – Definition of the objective of the project.	Meeting with the coordinator and selection of the teaching methodology, tools, and disciplinary theme.	Online meeting, the use of technology for educational purposes, through texts, images, videos and stories.
Phase 2 – Knowing the occupations and commitments of the monitoring.	Answering questions; correcting assignments; creating activities for students; developing and presenting lesson content with the teacher; assisting in practical classes; organizing scientific events; and producing scientific articles.	Remote classes via the Microsoft Teams platform, in chat rooms, for the production of teaching materials for use on social media, and active teaching methodologies.
Phase 3 – Construction of the project.	Choice of social media platform, of brand name, of logo design, of visual identity, and of standardized layouts.	Use of design programs, websites, or visual production applications (apps).
Phase 4 – Execution of the project.	Producing and sharing weekly summaries of the content covered in classes; organizing the profile for weekly posts; maintaining a standardized feed; creating Stories, Reels, and IGTVs; and responding to direct messages.	Research of scientific content and use of available tools on the Instagram platform such as Reels and IGTVs.

Source: Program of Nursing Academic Monitoring.

RESULTS AND DISCUSSION

The remote nursing tutoring began its activities in the second semester of 2021 with the sixth semester nursing class. In order to meet the project's assumptions, a project presentation was made to the participating class on the first day of class. The student tutors and the coordinating professor of the tutoring established effective strategies for conducting online nursing tutoring activities, which involved the idea of combining the remote teaching activities that happened through the Microsoft Teams platform, with the tools of Instagram.

So, it is emphasized that, in the creation of strategies, according to one of the main tasks of the progressive educational practice, the development of critical, dissatisfied, and rebellious curiosity was sought. Curiosity as an inquiring restlessness, an inclination to unveil something, a verbalized or unspoken question, a search for clarification, and a sign of attention that suggests and alerts, is an integral part of the vital phenomenon [4]. With curiosity, experiences and inquiries lead to the emergence of new knowledge, and from the dialogue between teacher and student, new educational practices and technologies for its transmission arise.

In this sense, within the field of health, students and professionals use digital platforms as a means of health education and to share information about diseases, prevention, education, among other topics [15]. The planning resulted in a structured schedule, divided into stages, activities, and strategies (Table 1).

Having known the tasks of a tutor, which include addressing doubts, correcting assignments, preparing activities for the students, creating and delivering class content with the teacher, assisting in practical classes, and organizing scientific events and publications, the monitors formally documented these activities in minutes, they formalized the execution of an online academic event (webinar) and produced a scientific article for publication as part of the academic monitoring project. To carry out the online monitoring activities, the chosen strategies by the students were: remote classes through the Microsoft Teams platform, chat rooms, production of educational materials for use on social media, and the use of active teaching methodologies (Table 1).

In a second phase, the monitors started the online monitoring project, selecting Instagram as the social media platform for sharing images and short-duration videos to disseminate knowledge.

Currently, a large portion of students constantly engage in the cyber world, which leads to reflection on practices that take advantage of this time that is often considered idle, so that it transforms it into a tool that enhances and facilitates learning [16]. Thus, the student monitors defined a brand name, a logo, a visual identity, and standardized layouts for the project. In the production of the designs of the posts, as well as in the creation of the logo, of the visual identity, and of standardized layouts, the monitors used the free editing platform Canva, considering that the visual identity should be direct in its purposes and possess flexible communication so that it can be adapted according to the target audience. The purpose of creating a design pattern or template is to ensure that an account's feed has harmony and eliminates visual clutter, which is considered a negative factor for future visitors to the page [17].

The visual identity provided by the standardized design template of the page, created by the monitors, aimed to demonstrate professionalism and to communicate each time more effectively with their audience in a harmonious and personal way. Using a color and layout pattern was a strategy used by the monitors to make the feed visually appealing to anyone visiting the account, providing the visualization of systematically organized content and facilitating access for the followers. The brands represent an individual strategy to attract and develop interesting contacts and relationships from a personal and professional perspective, as well as to give visibility to characteristics, skills, and competencies in terms of acceptance and professional recognition[18].

The third step in the project execution began with the use of various tools available on the Instagram platform, such as Stories, Reels, and IGTVs, for the production of educational content for sharing in the account, once that to develop practical educational content, it is essential that the content creator has at least a basic understanding of the subject matter in order to be able to break down a complex topic into something simpler and more concise, without losing the essence and meaning of the object of study. In the production of the educational content for Instagram, the student monitors previously established scientific sources of consultation to produce the summaries of the posts, demonstrating the great importance of the elaboration of digital content.

The challenge is to invent and discover creative uses of educational technology that motivate and inspire teachers and students to enjoy learning [19]. In the daily practice of teaching, the inclusion of technology seems essential; however, technology itself is not determinative of the teaching quality. The former @monaencel, now @monenf.digital, has produced a total of 95 publications composed of posts, videos, Stories, and Reels, which were created based on the characteristics of the page's audience and the curriculum content of the nursing course, stimulating followers in their learning process and initiating the account engagement. An analysis of the use of Information and Communication Technologies in online education revealed that utilizing the available technological tools for educational promotion results in information sharing, in communication, and goal achievement, benefiting the target audience [2].

The active use of tools on Instagram, such as creating highlights, served as a kind of folder for the agglomeration of Stories, Reels, and IGTVs produced and published by the monitoring team, and it facilitated visitor access. With the aim of using active methodologies on the platform, the creation of the "#CINEMONA" folder stood out in terms of the number of views. Simultaneously, Stories indicating the reading of articles and viewing of YouTube videos were archived, which provided a brief introduction to the disciplinary topics presented in the semester, thus leading students to become an introduction of the theme before the start of the class. Effectively accomplishing the didactic transposition of scientific knowledge into real teaching situations is among the numerous challenges faced by the monitoring team in the teaching and learning processes, as it seeks to ensure that the

objectives set for the course, discipline, or any learning situation are achieved.

To carry out the interactive phase with the monitored students, the monitoring team proposed engaging in discussions with the class through text messaging after the exhibition of films and documentaries that approached classroom topics. In this chat-based exchange of messages, students expressed their opinions and learnings about the topic, and the monitors encouraged a reflective and critical conversation regarding the health issues presented in the films and the nursing actions. In many instances, the possibilities offered by the digital tools proved to be more efficient than those available in face-to-face classes, raising the question of the future of higher education. In the meantime, however, the need for in-person meetings is being discussed [12].

Another highlight in the strategies found for remote teaching practice by the nursing monitoring team was the production of informative and dynamic content posts through interactive audiovisual content, which are, Reels and Stories. Interactive tools like Stories and Boomerangs, as well as Reels, available on Instagram, work as a compass for guided and interactive study, revolutionizing the way we learn and breaking down paradigms created by traditional education. With just one click, it's possible to answer a quiz question about a scientific topic, which means with a single click, the viewer can absorb that knowledge and learn [17]. Among the tools available on Instagram, Reels have shown the greatest reach and interaction within the network, its popularization on the platform is evident through the large number of reactions expressed in likes and shares by the account's followers.

Among the Reels produced by the monitoring team, we would like to mention the three most viewed ones: The Reels about Thought Disorders, based on the movie Shutter Island, received 4,770 views, 102 likes, 5 comments, 24 shares, and 17 saves, resulting in 4,795 accounts reached and 148 interactions with the content. The Reels about Psychopharmacology (Past vs. Present),

inspired by the series Ratched, obtained 1,964 views, 63 likes, 6 shares, and 12 saves, totalizing 1,933 accounts reached and 81 interactions with the content; and the Reels about the classification of psychopharmaceuticals, featuring scenes from the movie Fight Club, gathered 731 views, 8 likes, 1 comment, and a total of 719 accounts reached and 9 interactions with the content.

The interaction of student followers on the account @monenf.digital account, presented during the period of remote monitoring, allows us to affirm that by opting to carry out academic activities through remote teaching, educational institutions were able to minimize the loss in educational relationships during the period of social isolation. These relationships, which educators should reinforce, aim to increase the students' critical thinking capacity, his/her curiosity, and his/her insubmission. These conditions imply or require the presence of educators and creative students, instigators, restless individuals who are rigorously curious, humble, and persistent [15]. Thus, it is emphasized that teaching, learning, and researching involve two moments of the gnosiological cycle: one in which existing knowledge is taught and learned, and another in which the production of non-existing knowledge is explored. Therefore, dodiscence (teaching-learning) and the research, inseparable practices, are required practices for these moments of the gnosiological cycle [15].

The impact of using technological tools in creating interactive audiovisual materials for health education through social media has stimulated the integration of subjects studied in the daily academic life of students, promoting and reinforcing the dissemination of knowledge. The use of Digital Information and Communication Technologies (DICT) in educational environments simplifies the teaching and learning process and reinforces the possibility of social inclusion. Furthermore, a favorable outcome in the teaching process only occurs when it is carried out through bold and efficient strategies that align with the needs of the disciplines and of the students, while

also meeting the requirements established by educational institutions [20].

Besides the use of the Instagram platform as a means of disseminating scientific content, it was also possible to disseminate online events created by the nursing monitoring team. Other technological tools were used, such as the academic and scientific event organization platform Even3, for registrations and certifications; Google Forms, to keep track of the number of online event participants; and the StreamYard and YouTube platforms for event streaming.

The limitations that were found relate to the lack of more detailed data available on the platform used, Instagram, in order to obtain a broader and more realistic understanding of the results provided by the monitoring. Besides that, digital exclusion must be taken into consideration, as there are students who do not have the financial means to afford a good mobile device or a suitable computer for accessing the platforms used. It was also noticed that some students were unable to access scientific events, for example, due to a lack of technological aptitude or poor internet connectivity in their homes.

Hence, it is worth emphasizing the individual study style of each student and the fact that some students have a more analog personal learning approach, following the traditional banking education model, for example. This fact indirectly affects the results because, despite having access, the student prefers not to fully embrace technology in the same way as others.

CONCLUSION

The use of ICTs in education in Brazil has proven to be a valuable educational tool that enabled new discoveries about the production of information and social inclusion in education. This is because technology in knowledge production continues to be present in society's daily life even after the pandemic.

It was through the scientific review and the interpersonal relationship that the monitoring students and the project participants improved their academic training and developed an appreciation for teaching and learning, as well as developed technological skills and competencies in the research and the teaching area. Thus, it can be said that the creation of a social media platform for education is a tool that allows expanding, promoting, and sharing knowledge.

Effectively, the enhancement of the ICT use in education by the monitoring team served to understand and address the needs of each student and adapt them to the current scenario, once that connecting through the tools provided by digital platforms revolutionized education and simultaneously presented some challenges. These challenges include positive aspects such as the use of various digital tools to improve and expand teaching in the classroom, the reduction of distance barriers and the feasibility of connection, and the ability to interact at any time and place. Among the negative challenges are connectivity issues, families without access to technological resources, students who did not adapt to distance learning, and teachers without specific skills to deal with remote teaching.

Therefore, it can be concluded that the implementation of ICTs in academic monitoring provided the opportunity to expand teaching in an autonomous, creative, and participatory manner, transforming individuals, strengthening relationships, and enabling a deeper understanding of the concepts taught. It also generated greater interest from the monitored students in their education. Despite the challenges encountered throughout their academic journey, real-life situations stimulated the students and monitoring team to think beyond, take initiative, and engage in debates, strengthening the professional network and facilitating the exchange of knowledge.

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