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Classroom experiences in a virtual teaching environment in times of Covid-19 pandemic: Reports of experience in urgency and emergency nursing education

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***Abstract*—** *Objective: to describe some perceptions about the experience of the virtual teaching period and reflect on some of the impacts of the transition from classroom to classroom in a virtual environment in higher education in nursing that occurred during the pandemic caused by the new coronavirus. Method: this is an experience report, with participatory observation about the experiences of teachers of the Bachelor of Nursing course at Escola Superior da Amazônia (ESAMAZ), Belém, State of Pará, about the dynamics developed in the teaching-learning process in Pre-Hospital Urgency discipline, from August to December 2020. Result: In this brief report we present some perceptions of the period of virtual education that occurred during the pandemic caused by the new coronavirus. Not making exclusive use of a chronological order, we recorded facts and situations that led to the actions that guided virtual nursing classes and the impressions of this experience. Conclusion: the situations described here may corroborate with the experiences of other teachers, showing that it is not enough to use digital information and communication technologies in teaching, training, time and strategies are needed for an adequate incorporation of these technologies in nursing education.*

I. INTRODUCTION

The year 2020 began with the World Health Organization (WHO) communicating the presence of a virus that would totally change the way humanity was used to relating. This virus, called the new coronavirus (SARS-CoV-2) is responsible for causing COVID-19, and in mid-March 2020, due to the worldwide spread, it reached characteristics of a pandemic, being declared a Public Health Emergency International Interest (ESPII). In Brazil, the rate of contamination by the coronavirus has advanced rapidly. In Latin America, the first recorded case was in São Paulo, Brazil, on February 26, 2020, in which the numbers of contagion increased exponentially, with more than 170 thousand deaths[(1)].

The disease caused by the coronavirus, COVID-19, was first identified in China in December 2019. On January 30, 2020, WHO declared that the COVID-19 epidemic was an ESPII, and, in March 11, 2020, a pandemic[(2)]. After the arrival of the coronavirus in Brazil, numerous strategic measures for disease control and prevention were taken by health authorities in different administrative spheres (federal, state and municipal governments). These strategic measures differed from one region to another in the country, however the most widespread and defended measure by the world's scientific authorities was the practice of social detachment, understood in general, both by the population and by the mass media, as social isolation[(3)]. SARS-CoV-2 is a new virus in the coronavirus family, causing infections that were initially reported in Wuhan, China, starting in mid-December 2019. This virus is transmitted through respiratory particles when individuals remain in close contact, especially indoors. The infectious condition caused by this virus is called Covid-19[(4)].

In the world, the practice of social detachment has been recommended as an effective measure for the prevention of this infection, however it has caused some impacts on the various dimensions of people's lives[(3)]. The social distance caused by the coronavirus pandemic, led to the temporary suspension of face-to-face classes in schools and universities, greatly changing the routine of educational institutions in Brazil and the world, bringing a great challenge to the face-to-face teaching process, prevalent in Brazil. By suspending face-to-face classes, teachers, students, coordinators, schools / universities and educational technicians were forced to adopt new attitudes and take several measures in relation to how the teaching and learning process would be conducted at this time[(1)].

In the meantime, several policies have been adopted by several countries in order to control the spread of the disease and contamination of their populations. In this way, the World Health Organization (WHO), the United Nations Children's Fund (Unicef) and the International Federation of Red Cross and Red Crescent Societies (IFRC) issued guidelines to maintain security in the various segments of society, including in educational settings[(4)].

Due to the reported facts, in Brazil, there was a need for standardization, which was carried out by the Ministry of Education and Culture (MEC) through ordinance no. 343, of March 17, 2020, allowing the substitution of face-to-face classes at the country's educational institutions, by pedagogical proposals with classes that would allow the continuity of teaching through Digital Information and Communication Technologies (TDIC)[(5)].

As soon as the activities of the 2020 school year began in Brazilian schools, the educational system was surprised by the need to interrupt classes. The doors of educational institutions were closed abruptly, and such suspension of classes was not provided for in educational planning. Educators, students and family members were concerned; official information was often mismatched. Many questions emerged, what was actually happening? It was in this scenario, with no expected return of face-to-face classes, that MEC proposed distance learning through the virtual environment[(6)].

In an increasingly connected world, where technology is linked to practically all professions and social spaces, having knowledge related to technological sciences is essential in the professional exercise of the educator. However, despite the unquestionable achievements already achieved, many challenges are still launched in the daily lives of these professionals, and many questions portray limiting conditions with regard to the understanding of technological tools[(5)].

Faced with the suspension of face-to-face classes, universities started to adopt classes called “remote teaching”. Here we endeavor to elucidate such terminology, understanding that the term is not the most appropriate to be used, since it reports the idea of geographical distance, in Portuguese dictionaries, for example, the word remote is treated as something that is far away in time and / or space, as something far away, which we do not consider to be the case. The most appropriate nomenclature would be Virtual Teaching, since all teaching action takes place within the virtual world, with a change of environment (face-to-face to virtual), through Digital Information and Communication Technologies, which allow contact synchronously (through videoconferences, for example). example) and / or asynchronous (using virtual learning environments), that is, there is a geographical separation, but that does not

mean that they are in "remote" or difficult to reach locations, only the actors cannot meet physically[1].

This imposes a new attitude towards the reality of Higher Education Institutions for the coming years. Universities, academic departments and university courses will need to reinvent, adapt and resignify themselves to reduce pedagogical damage and risks to public health, thus ensuring the maintenance of a high quality and safe education. In the meantime, it is up to the deliberative and planning instances of higher education institutions to make fundamental decisions that will support the conduct and decisions of teachers as to how to conduct their curricular components. Adaptations will need to be made in the institutional development plans, in the pedagogical projects of the courses and in the management of the departments, in order to find the best way to deal with the emergency situation[7].

During social isolation, some pedagogical alternatives were raised for the teacher to work in a virtual way, however some questions emerged: were the educators prepared for this type of teaching? Did we have enough resources to support this pandemic period? What would the teaching and learning process be like during social distance? Furthermore, after the pandemic, what would be the educators' learning and positioning?

The current pandemic context of Covid-19 required educational institutions to make decisions about how to deal with the processes of teaching, learning and teaching, so that the actors involved (teachers, students and staff) were protected from contamination and the spread of the virus. The suspension of face-to-face classes has led many higher education institutions to choose the use of Virtual Emergency Education, as an alternative way to continue with the school year[7].

Thus, the study aims to describe some perceptions about the experience of the virtual teaching period and reflect on some of the impacts of the transition from classroom classes to classroom in a virtual environment in higher education in nursing that occurred during the pandemic caused by the new coronavirus.

II. METHOD

It is an experience report with participatory observation about the experiences of teachers of the Bachelor of Nursing course at Escola Superior da Amazônia (ESAMAZ), Belém, State of Pará, Brazil, about the dynamics developed in the teaching-learning process in the discipline Pre-Hospital Emergency, from August to December 2020.

The descriptive method was used, for this, a critical analysis of the activities developed during the period of social isolation caused by the coronavirus pandemic, which led to the temporary suspension of face-to-face classes in schools and universities, was carried out. The discipline Pre-Hospital Urgency is a mandatory curricular component of the undergraduate nursing course, being taken in the sixth term of this teaching institution. It has a theoretical-practical character, with a total workload of 60 hours.

Due to the worsening of the pandemic in the country, the MEC published ordinance no. 343 of 17 March 2020, allowing the substitution of face-to-face classes at educational institutions in the country, for classes in virtual environments. During this period, teaching institutions were suspended from their classes[1].

Next, a personal vision built shortly after academic activities will be suspended by higher education institutions, mixing experiences acquired during lectures, conferences, short courses, round tables involving this theme and carried out during this period of social detachment. In addition to the perspectives and preparations for the beginning of classes that took place exclusively virtual in the educational institution where we teach.

The purpose of this study is not to exhaust the subject, nor to want to present these perceptions as absolute truths, but as a complementary perception to the different perspectives described from the teachers' experience during the pandemic.

III. RESULTS AND DISCUSSION

Several issues have emerged in a very short time. This short adaptation period made us reflect on how to proceed in relation to classes in the initial period of the pandemic, which methodologies should we use? What digital teaching resources could be used? How could we work with the Pre-Hospital Emergency discipline in a virtual format?

In view of the countless challenges verified for a virtual return to classes, the lack of teacher training in the use of TDIC can be considered another difficulty in this pandemic moment. It is described that many teachers were not "prepared" to use digital technologies in teaching. There are several studies in the literature that corroborate this observation[1].

It is in the midst of this scenario of profound and diverse questions that this essay proposes in order to reflect on some of the impacts of the transition from classroom to classroom in a virtual environment in higher

education in nursing that occurred during the pandemic caused by the new coronavirus. Based on an interrogative methodological proposal, we seek evidence of meanings and values that can promote resilience and coping, contributing to the reconstruction of life and the reframing of the teaching profession in the midst of the adversity of today[6].

Faced with a scenario of fear and high mortality rates, 341,048 confirmed cases of COVID-19 and 21,682 deaths on March 23, 2020 according to G1 (2020), there were several changes in the social, economic and educational spheres, directed by federal, state and municipal governments[8].

In the midst of the current pandemic, science, supported by empirical evidence, has started to gain irrefutable importance. Thus, understanding the impact of Covid-19 on Education, based on what the scientific evidence says, is relevant for society[2].

In Brazil, in March 2020, ordinance no. 343 of the MEC, which: provides for the substitution of face-to-face classes with classes in virtual media while the new coronavirus pandemic situation lasts. This first ordinance arises in order to guide the functioning of higher education, authorizing, on an exceptional basis, the substitution of classroom disciplines for classes that use digital media. The disciplines with the potential for such substitution must be defined by universities. Regarding these disciplines, Ordinance no. 345 of March 19, 2020, complements the aforementioned, prohibiting the realization of practical disciplines or laboratories[8].

The use of distance learning is supported by the current LDB (Law of Guidelines and Bases of Brazilian Education), Law No. 9,394 of 1996), in its Article 80, establishing that the "Public Power will encourage the development and placement of education programs distance learning, at all levels and modalities of education, and continuing education"[6].

Throughout history, although not to the same extent as today, several events were responsible for altering the regular functioning of teaching, for example, in 1916, a polio epidemic in the United States, produced a quarantine condition and consequent closure of institutions of teaching in the first two months of the school year. In 1990, a strike by educators in a community in Belgium paralyzed schools for almost six months. In a more recent context, in 2005, Hurricanes Katrina and Rita led to the closure of schools and the relocation of students between schools in the southern United States[2].

In view of these events, a challenge we observe is how should teachers reconcile personal / domestic activities and their teaching duties? Since these have increased substantially with virtual classes. We can say that during the period of virtual classes, we work much more than before social isolation, where we had our life routines changed.

In this context, the protagonists of this teaching-learning relationship, teachers were faced with this whirlwind of demands to be met, such as: training for the mastery of new tools, perfecting and / or reviewing their teaching and classes plans, in view of the new methodology proposed by the institutions. It should be noted, among other points, that these professionals had their life routines, in many cases, totally altered[5].

The video classes were conducted through Zoom Meetings (a public company, Nasdaq); an internet tool that allows videoconferences and audio, seminars, collaborations and conversations on mobile devices, computers, telephones and classroom systems (ZOOM, 2020), at the same time as the classes. Each day a link was created and sent to the entrance to the video class[6].

At the moment when the educational processes undergo major changes, as in this one, these questions about the inability of technological tools, about the use of differentiated methodologies from the conventional, make the teacher realize that the teaching and learning process also changes. For this reason, it is necessary to develop a training program. For when leaving the physical classroom for the virtual one, other than the usual and ancient use of traditional teaching methods, adaptations are necessary[5].

It is a fact that not all teachers had training or any previous experience with distance learning, or with the use of digital technologies as a didactic resource[6]. In the face of these challenges, were we again provoked to reflect on how we would do it now, amid the tension inherent in the moment in which we live? How to reinvent the profession itself in the midst of a crisis? How to deal with the anguish that surrounds this moment in the face of not knowing how to do, of the unknown?

In private higher education institutions, this change occurred almost immediately to the emergence of the pandemic, under the guidelines of social exclusion and decrees for the closure of teaching spaces, which led researchers to look into the perspective of understanding the impacts of abrupt change in the teaching-learning relationship. The justification of educational institutions is the logic of continuing to provide services to the student, governed by contract, as well as compliance with the academic calendar[5].

It is known that teachers have an extremely important role in conducting the teaching and learning processes,

with regard to organizing and planning the classes, content, materials that will be taught in the process of building the curricular component, deciding how the assessments will be carried out. of students and institutional self-assessments and to foresee and provide strategies to contribute to the construction of students' knowledge[1].

Regarding these actions, we understand that they are more difficult to do, when the focus is on Virtual Learning Environments, even for those teachers who are more familiar with these environments and are concerned with carrying out studies on TDIC.

We emphasize that over the years we have invested in research involving digital technologies in teaching, however we recognize that adapting to the EV model was a major challenge.

With the need for classes solely mediated by technologies, a race begins to guarantee the continuity of teaching[8]. In this sense, how to promote actions so that students are not extremely affected by EV? The challenge was to try to minimize the impacts (mainly of exclusion) of an EV for a portion of the students who could participate in the virtual classes. Here at no time do we defend the hypothesis that teachers need to be converted into Youtubers or that to teach virtual classes they must have in-depth qualification in the use of digital technologies, but that the abrupt change from a classroom environment to a virtual environment needs to be incorporated through strategies, not just the goodwill of the teacher[1].

Another challenge for teachers in this pandemic period is the fact that they participate in a process of changing their pedagogical practice, in which, on the one hand, a considerable part of students already make constant use of digital technologies, mainly through smartphones, and on the other hand, teachers who no longer had time due to their diverse academic assignments, now need to rethink the possibilities of using such technologies in their pedagogical practices[1]. Here we are not talking about the simple fact of knowing a new mobile device, or environment or application, but about thinking and rethinking how to put these resources / devices in your practice and in order to achieve the proposed and applied teaching-learning objectives.

We noticed a significant difference in the conduct of classes in this new proposal. For those who teach in private universities, the replacement of classes took place very quickly, with all theoretical components being replaced by the new format based on technology. Classes continued taking place at usual times, allowing teacher-student interaction, others based on videos made available on digital platforms. It should be noted that this second, less interactive model was widely criticized by students and was soon replaced by a real-time format, in which students with access to the platform could interact synchronously[8].

With regard to training for the proper use of technological tools for classes, teachers were guided by online tutorials and in the best scenario, universities created a support group for teachers and students[8]. We emphasize that in the higher education institution where we operate, there was a situational diagnosis, using questionnaires for teachers and students on technological accessibility to monitor the new pedagogical format.

When thinking about the curricular component that we would teach during the period of social isolation, with a 60-hour workload, in person, we had to adapt them to the new calendar proposed by the educational institution. Short time, different methodology, because we understand that we could not use the same methodological strategies carried out in the face-to-face model. So, as a teacher, what strategies should be used in this new scenario?

In the EV it was necessary to reformulate, simplify, adapt. At no time did we think that we should decrease the quality of classes, on the contrary, we were convinced that they should have elements that help students to build their knowledge during the virtual class period. It was necessary to think about short and objective activities. In addition, we consider the importance of discussing with students the co-participation in studies related to the discipline. Initially, there was a temptation to propose many activities to students, to make several additional activities available, supplementary texts for discussions relevant to the content to be addressed. However, if we did this, we would be complicating or making the process of coping with teaching and learning even more difficult, due to the exhaustion of students and the impact of social withdrawal on their resilience.

After the various questions, given the uncertainties of how to proceed during the virtual classes, we were led to reflect on which TDIC could or should be used. In this regard, we can comment below on some proposals developed during the stage of choosing digital teaching resources for our virtual classes.

Based on the understanding that it is not enough to simply transfer traditional expository classes to digital media, in which the teacher only makes the content available to students, realizing that in this format we would be promoting disinterest in students, as well as contributing to make exhausted teachers, with the mere mechanical reproduction of his expository and little motivational classes.

In this sense, reflecting on what TDIC should be used in the EV, not only involved the technological part, but mainly the pedagogical question. Before the virtual classes start at the higher education institution where we operate, we consider it important to provide personalized and individualized teaching to students so that they could build their knowledge in order to acquire the necessary skills for training, in a perspective of Active Technological Learning[1].

From this perspective, we consider that it is not an easy task to be performed, however it was possible to plan activities that allowed greater engagement with students. One of the first steps was the choice of the virtual learning environment. Understanding that there would be no time to show the functionalities of the virtual environment of our institution of higher education, as it was considered more intuitive, it opted for the Zoom package, with the availability of classes recorded on youtube for asynchronous moments, and as a classroom, for students synchronous moments.

However, it was not just about choosing the virtual environment, it was necessary to have a structured, planned teaching proposal, with clear goals, good digital resources, defining what types of interactions (synchronous or asynchronous) would occur with students.

The use of scientific articles related to the content to be addressed was a strategy that we understand to be relevant in this context. After reading, students answered questions related to the text on Google Form in virtual form and in some cases, students produced collaborative essays on the proposed articles.

The development of quizzes (through Plickers and Socrative) on content was also another digital teaching resource incorporated for synchronous activities. The idea was that students would answer the questions to work on clinical reasoning about certain contents of the curriculum, so that they would project possibilities for use in their future professions. It was possible to apply clinical case studies for asynchronous activities, which were discussed in a synchronous room, in a perspective of problematic learning.

The set of results showed the potential for teaching and learning and enabled adjustments in the continuity of the disciplines considering the limitations of the modality. It is considered that the success of the teaching and learning processes is built by a collaborative regime between those involved, especially in extraordinary situations such as the pandemic, before which there is a need to adapt teaching plans, pedagogical strategies and teaching methodologies, in addition to the importance of the partnership and co-responsibility between teachers and academics in the construction of the teaching-learning process[9].

The first classes were more difficult and challenging, since it was an unprecedented experience for students who, for example, did not know if they could interrupt their speeches or if they would have to wait until the end of the class to clear up their doubts.

The great lesson of this experience was that for an adequate teaching that promotes the participation of students, so that they build their knowledge, it is necessary to have terms: strategies, time and training. These three situations can contribute to the most effective teaching and learning process, whether face-to-face or virtual.

Contrary to old ideas and speculations about the revolution in teaching brought about by technologies, what we observed is that these means should be considered auxiliary in the teaching and learning process, not being the only ones that can transform education[1].

It is reiterated that one of the ways to make the co-responsible structure viable is to execute the pedagogical contract, where both parties can cooperatively adapt expectations, needs, objectives, participatory methodologies, evaluation processes and feedbacks, assuming co-participation in the process and results[9].

IV. CONCLUSION

In the present study, the objective was to present a brief report and reflections on the transition from classroom teaching and its adaptation to online education, with access classes in virtual environments in higher education, in order to enable the student to continue teaching, its implications in the teacher's learning process and performance in the use of digital tools, in addition to considering the positive and negative impacts of this pedagogical adaptation and possible difficulties of teachers in the use of technological devices for the continuity of classes in virtual environments.

In addition to the students' situation, observed in this experience, in the sense of feeling excluded from the process due to the lack of resources, he mobilized a close look from teaching professionals, teachers and managers, in order to plan teaching with a more comprehensive look at the variables socioeconomic conditions.

It was found that in order to obtain a good relationship between technology and user, there must be the minimum necessary training. And even those who somehow already had skills with TDIC presented difficulties in this new modality. In view of the reflections and observations

presented in this report, the model of virtual classes proved to be efficient, with successful experiences and good performance of tasks and activities as planned.

It should be noted that despite this modality being efficient, there were limitations in terms of effectiveness, considering that there was not a total of students with access to teaching / learning, due to geographical and socioeconomic limitations, a factor that compromises the quality of service provision. public and private higher education institutions.

We consider it relevant to inform that the software presented for the class model, proposed by the higher education institution, are adapted models. These tools are means of interaction that serve corporate models, with the aim of connecting employees, and improving team interaction, providing a communications alternative, and even replacing the use of e-mail. In the eyes of the researchers, very well adapted, because it allows the student, a contact with the reality of the professional corporate environment.

Finally, it is also worth considering that in this teaching / learning process, the teacher may be affected by another problem, perhaps unknown, and less noticeable, that is, the frustration of not knowing and fully mastering the tool, expanding their workload in search of this competence. Even more attention is warranted, since all of this, going through the pandemic process, of total social isolation, requires emotional balance and good practices to maintain, also, physical, mental and financial health.

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