

Information and Communication Technologies in Primary Care: the blog at the service of Dentistry training

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ABSTRACT

The incorporation of technological tools in teaching presents itself as strategic for the transformation of teaching in Dentistry, changing the process of student education through the implementation of Information and Communication Technologies. This is an experience report of exploratory and descriptive nature, built from a monitoring project developed in 2016 involving students and teachers linked to the curricular component Collective Health I of the Faculty of Dentistry, University of Pernambuco (UPE) Arcoverde campus. When a questionnaire was applied to evaluate the work developed, 17 (94.4%) students stated that the method applied complemented their knowledge of Collective Health, with 3 (16.7%) and 9 (50.0%) students respectively classifying the activities and the means of interaction as excellent and excellent. The use of the virtual environment presented itself as an important tool in expanding the teaching-learning spaces beyond the classroom, favoring digital inclusion, socializing products, and stimulating the integration of participants around the theme.

Descriptors: Education, Dental. Information Technology. Primary Health Care.

1 INTRODUCTION

The World Health Organization (WHO) recommends curricular changes for higher education in health, so that the needs of the population using national health systems, such as the Unified Health System (SUS), are met in a comprehensive manner and with greater social commitment by professionals¹. The consolidation of the SUS and its health care networks began to require training and qualification of human resources in health based on the principles of universality, integrality, equity, and social participation. In this scenario, the conservative, traditional profile, with a strong presence of separations between cycles, which do not interconnect the different subjects, being

impermeable and incommunicable among themselves, aiming more and more at the formation of "super specialized" professionals, started to point out the need to review the daily practices of the Dentistry courses^{2,3}.

In order for the courses to accompany the population's needs and their respective care strategies in a tangible and feasible way, the academic training of new dental surgeons was initially guided in 2002 by the National Curriculum Guidelines (DCN)⁴, which currently have an updated version in 2021⁵, based on a broad process of discussion⁶. The guidelines present the expected profile of the dentistry graduate, as well as the general and specific competences to be achieved and the basic

characteristics of the pedagogical projects of the courses.

In an attempt to operationalize the DCN guidelines, several methodologies have been incorporated into teaching. Among them, the application of Information and Communication Technologies (ICT), the most common term to refer to electronic and technological devices, including computer, internet, tablet, smartphone⁷. Mendes (2008)⁸ defines ICT as a set of technological resources that provide communication in existing business, teaching and scientific research processes.

The inclusion of ICT in the academic environment has been seen as capable of facilitating learning and connecting students and teachers through its contribution to the expansion of pedagogical spaces and times, opening doors so that students can become protagonists in the learning process and in the construction of collective knowledge⁹.

In the consolidation of the SUS care model throughout the dental surgeon's training and in the strengthening of the teaching-service-community integration, ICTs are presented as tools to facilitate the teaching-learning process, by supporting the communication with teachers, students, patients, health professionals, and the community in general¹⁰. It is worth mentioning that in dentistry it is possible to link ICT in both practical and theoretical activities through many different strategies, such as the use of software, technological equipment, applications, QR codes, chats, forums, quizzes, social networks, and podcasts, among others¹¹.

From this perspective, Nóbrega *et al.* (2014)¹² evaluated 58 Higher Education Institutions with Dentistry courses, 42 located in the Northeast region and 16 in the Midwest region of Brazil, in order to verify the application of ICT. They found that 51 (87.9%) had a specific page for the course, but only three

(5.2%) had a website or blog related to the subject of histology. In this new scenario that has been installing itself and gaining more space in the area of the transformation of teaching in Dentistry, especially during the pandemic of COVID-19, the incorporation of technological tools in the teaching activity assumed dimensions never seen before. Thus, the objective of this study is to share the experience of modifying the process of student formation through the implementation of ICT in the curricular component Collective Health I of the Dentistry course of the University of Pernambuco - Arcoverde campus.

2 EXPERIENCE REPORT

This is an experience report of exploratory and descriptive nature, built from the monitoring project developed in 2016 involving students and teachers linked to the curricular component Collective Health I of the Faculty of Dentistry, University of Pernambuco (UPE), Arcoverde campus.

Characteristics of the curricular component

The curricular component Collective Health I is characterized for having a workload of 60 hours, distributed in 30 theoretical and 30 practical hours. The component is responsible for directing the course's students to their first contact with Public Health throughout their dental education, with the purpose of introducing them to the health system in force in the country. Therefore, it is especially concerned with the approach to Primary Health Care, seeking the application of innovative strategies that can strengthen the dental surgeon's view of this level of health care.

The monitoring project was approved in the Teaching Initiation Edict published by the Undergraduate Dean's Office (PROGRAD) of UPE, in order to provide 18 students from the 1st

period of the course with the opportunity to get to know and interact with the contents related to Primary Health Care worked on during the curricular component through the development of a virtual environment.

Students were introduced to the content initially through a theoretical approach, to then develop practical activities, in which they toured in person the municipality's Primary Care services, partnered with the UPE. The visits allowed students to observe the reality and compare it with the contents experienced theoretically, enabling them to understand the difference between the legal SUS, established through legal frameworks (constitutional and infra-constitutional), and the real SUS, resulting from the articulation of the subjects that make up the reality of the services.

As a way of exercising the teaching practice in the student monitor, the following strategies were developed: "asking questions" preceptorship, conversation rounds with the advisors and other teachers, planning and developing teaching strategies, monitoring seminars, guiding students during the curricular component, creating discussion forums, producing educational videos, and sharing teaching materials related to the contents covered.

As part of the knowledge construction process in the curriculum component Collective Health I, a strategy known as the Recovery Project was applied. This strategy makes it possible to rescue the knowledge of subjects to which the students had more difficulty during the formative assessment. They were challenged to transform the content, whose competencies had not been achieved during the formative assessment, bringing a new look, now in a format focused on social media. All the production was submitted to the teachers and the instructor for an analysis of the content and form.

The content of the challenges was developed after the individual analysis of the difficulties presented by the students during the formative assessment. The challenge was to transform the language and deepen the knowledge, now to be presented, individually, with a new outfit. If before the complexity was to understand a certain subject, now they would have to, after grasping the content, synthesize it producing the posts to be made available in the virtual environment.

Once the contents were ready, they were analyzed by the teachers of the curricular component as to the pertinence of the challenge, that is, if they had met the established criteria of quality and pertinence. Once these criteria were met, the students would receive up to two points to be added to the grade perceived in their evaluation.

Innovation in the teaching-learning process

To bring together all the teaching-learning strategies in a single space, facilitating the access of students to the content produced and as a source of information for the general population, the Collective Health Monitor I Blog was created:

<https://saudecoletiva1upe.blogspot.com/>.

The feeding of the content into the blog was performed by the monitor of the curricular component. This process of posting, following up, analyzing the interactions with the blog and social media, as well as disseminating and stimulating the productions was part of the work plan established for the Collective Health I monitor.

One of the greatest difficulties faced by the monitors in this work process was the use of adequate language in the products posted on the blog, trying to make the contents available in a way that was accessible to all interested parties.

The Collective Health Monitor I Blog

worked as a catalyst for the teaching-learning strategies developed for the curricular component. Since its creation in 2016, it has been constantly visited, with more than 3,000 visits from users from several countries (figure 1), occasioned from online searches by different

search platforms and social networks, among them, Google and Facebook were the most prominent. Among the main keywords used for the search, according to the data collected from the blog platform, different terms linked to health care networks stand out.

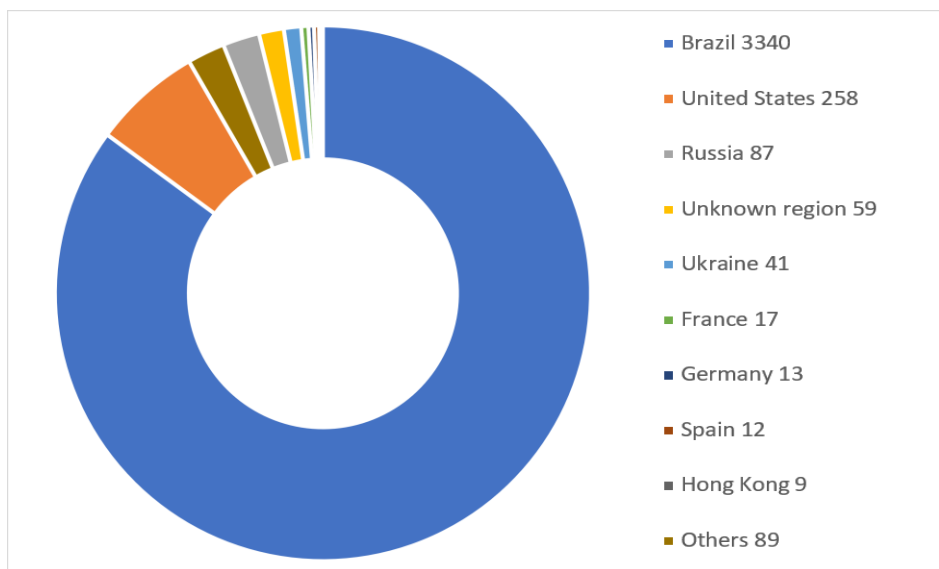


Figure 1. Main places where the blog was accessed - data from 23/06/2021

One of the working strategies explored through the blog were the discussion forums. These spaces were built from the different contents covered in the curricular component linked to Primary Health Care. In the forums, the students' main questions were already highlighted and these were taken to conversation rounds held in face-to-face or remote format. More specifically, during the approach to the territory and the functioning of the Health Care Network in the municipality of Arcoverde, Pernambuco, the students, divided into groups, were challenged to produce videos about the lines of care corresponding to the research developed by each group of the class, such as elderly health, women's health, child health, mental health and HIPERDIA (figure 2). The videos produced by the class were posted, in addition to the monitoring blog, on YouTube and Facebook.

They are short didactic videos that present different approaches among the groups.

It is worth mentioning here that, for the class meetings and discussions, the interaction between students and instructors was essential through the creation of a group in a social media network, facilitating the exchange of pertinent information in real time (questioning and answers) over the semesters.

As a strategy for disseminating the blog to the network of friends and other classes in the Dentistry course, the students were encouraged to share the content produced by their groups and disseminate the activities, in addition to encouraging interaction between the groups regarding the viewing of posts and comments, favoring the role of the student as a central component in the teaching-learning process.



Figure 2. Collective Health Monitor blog page, showing topics covered and definition of the monitor Project

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central component in the teaching-learning process.

Process evaluation

In order to improve the development of the curricular component, an electronic evaluation questionnaire was applied to the enrolled students, with questions regarding the monitoring and the method used. When questioning the students about the capacity of the applied method to complement their knowledge in Public Health, 17 (94.4%) students confirmed this capacity. About the activities and means of interaction presented, 3 (16.7%) and 9 (50.0%) students classified them as excellent and excellent, respectively. When asked

about the possibility of the applied method being continued in the following semester, in the Collective Health II curricular component, all students agreed.

Sales et al. (2012)¹³ aimed to identify the perception of undergraduate and graduate dental students at the Federal University of Pará (UFPA) about correspondence course and the use of ICT during their academic training. By means of a questionnaire applied to 166 students, 153 undergraduate and 13 graduate, they concluded that the different ICT tools were widely used by the students, being seen as having great potential for teaching-learning. Despite this, most of them do not use them in favor of remote education, because they still cannot understand the purpose of this type of teaching, showing little interest in the subject.

The work of Barros *et al.* (2019)¹⁴ reveals that the perceptions of students and preceptors regarding the tools that most support the development of the teaching-learning process can sometimes be different. The fact that the present study questioned only the perception of the students is a limiting factor, which encourages its unfolding in order to expand communication with the other social actors involved with the curricular component.

The construction of this work was based on ICT as a new possibility to favor the development of the student in relation to the expected competencies, including the ability to face the new, with the use of creativity and the application of communication tools. ICT can be considered one of the most important factors for the profound changes in the world and, with the dynamics of innovation, they have become indispensable for the global economy and its development¹⁵.

The resources applied throughout this work process allowed us to identify the points of difficulty in the students' learning and to act

together with them, making learning more dynamic and with emphasis on the student himself. With the consolidation and wide dissemination of the resources provided by the World Wide Web, new pedagogical options have been proposed, based on educational theories that assume that "passive methodologies", centered on teachers and content, have a very limited place in contemporary teaching-learning processes. Narvai et al. (2018)¹⁶ identified that active methodologies as modifiers of the teaching-learning process are able to break with passivity and repetition of content.

Although the use of ICT promotes global interconnection and continuous and permanent access to any and all information, this does not mean that its pedagogical application is well understood by society in general. Genari et al. (2015)¹⁷ evaluated the skills of 335 dental students from the Federal University of Rio Grande do Sul in 2009 in relation to ICT, concluding that the participants had a good command of the tools and a moderate level regarding the importance attributed to the dental use of these technologies.

Fonseca (2018)¹⁸ investigated 597 Dentistry students from the Federal Universities of Pelotas (UFPeL), Rio de Janeiro (UFRJ), and Fluminense (UFF) in order to draw a general profile of ICT use by respondents. Among her results, the author highlights the importance of knowing the profile of the technology used by students in order to design didactic content and pedagogical practices aligned with the way students use ICT.

From the experience, it is advocated that the contents linked to the SUS be conducted through innovative approaches, with free access, capable of arousing the interest of students and being elected based on the reality of each group worked. It is emphasized that the approach of these contents in a transversal way, beyond the

curricular components of Collective Health, can strengthen collaborative learning and induce the formation of a generalist, humanistic, critical and reflective dentist.

3 FINAL CONSIDERATIONS

The use of the virtual environment presented itself as an important tool to expand the teaching-learning spaces beyond the classroom, favoring digital inclusion, socializing products and stimulating the integration of the participants around the theme. The experience report presented here becomes even more relevant in the pandemic context provoked by COVID-19, when the exchange of experiences about the use of ICT strengthens the understanding that along with the diffusion of the use of tools and devices, it is necessary to innovate in the communicative practices, in a dialogical, plural and democratic way.

RESUMO

Tecnologias de Informação e Comunicação na Atenção Básica: o blog à serviço da formação em Odontologia

A incorporação de ferramentas tecnológicas na atividade docente apresenta-se como estratégica para a transformação do ensino em Odontologia, modificando o processo de formação discente por meio da implementação de Tecnologias da Informação e da Comunicação. Trata-se de um relato de experiência de caráter exploratório e descritivo, construído a partir de um projeto de monitoria desenvolvido no ano de 2016 envolvendo discentes e docentes vinculados ao componente curricular Saúde Coletiva I da Faculdade de Odontologia da Universidade de Pernambuco (UPE) campus Arcoverde. Diante da aplicação de um questionário de avaliação do trabalho desenvolvido, 17 (94,4%) discentes afirmaram que o método aplicado complementou o conhecimento de Saúde Coletiva, com 3(16,7%) e 9(50,0%) discentes classificando respectivamente as atividades e os meios de interação como excelentes e ótimos. A utilização

do ambiente virtual apresentou-se como uma ferramenta importante na ampliação dos espaços de ensino-aprendizagem para além da sala de aula, favorecendo a inclusão digital, socializando produtos e estimulando a integração dos participantes em torno da temática.

Descritores: Educação em Odontologia. Tecnologia da Informação. Atenção Primária à Saúde.

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