

Usability of a Social Network as a Collaborative Learning Platform Tool for Medical Students^{*}

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Abstract. One of the fundamental characteristics of social networking platform is its versatility. Regarding to pre defined pedagogy premises it is possible to elaborate educational programs for any type of theme. Health is one of the areas that are being influenced by the possibilities offered by social networking platform. There are already many ongoing projects dedicated to the teaching of health practice and concepts of health. In this context, this paper focuses primarily on the development of a solution for teachers and students engaged on their 3rd year of undergraduate Medicine course, in the University Hospital. All the participants are enrolled in the Internal Medicine discipline, defining the student's entrance into the hospital routine. The model views for an open dialog that should allow an exchange of medical knowledge, in the sense of reaching a better solution for specific problems within each group.

Keywords: eHealth, collaboration, learning, usability.

1 Introduction

By definition, social network is a frame composed of individuals and/or organizations, with different types of relationships, connected directly or indirectly, to share knowledge, experiences and interests. It enables the development of horizontal relations and collaborative activities among its users [1].

Since social networks are widespread in different social contexts, such as entertainment, Facebook and Twitter, and professional, LinkedIn, it has been accepted as a learning management system in the process of teaching and learning. Teachers can act as a mentor in the process of teaching and learning, encouraging students to share and build knowledge together. Therefore, an active process of cooperation

^{*} This study have received the financial resource from CNPq – National Council for Scientific and Technological Development.

between students and teachers replaces the traditional structure of passive learning, in which the students acquire the knowledge transferred by the teacher [2-3].

In this context, through the discipline of Internal Medicine, at the School of Medicine of the Federal University of the State of Rio de Janeiro (UNIRIO), held at the Gaffrée e Guinle University Hospital (HUGG), a case study was realized by using the social networking platform, named YouKnow, developed as a tool for collaborative learning for medical students. This study aimed to present a system that focuses on collaborative learning and interactive activities on multiple platforms (computers, tablets, smartphones). It also shall promote the exchange of experience between students and teachers, health institutions, teaching hospitals and other interest groups. Through the access to patient case studies, the groups involved in this process could share opinions and medical practices in a collaboratively manner.

2 Material and Methods

The tool used during the study was the **Youknow** software, SLMs - Social Learning Management System, developed by Affero, with the main purpose of promoting learning through a collaborative manner among participants. This software focuses on the interaction between the traditional model of teaching and processes based on the collaboration between people.



Fig. 1. Example of screenshot of the Youknow's homepage

The methodology to this study was the usage of the software Youknow, during weekly meetings, by a group of students of the third year of medical school at the Federal University of the State of Rio de Janeiro (UNIRIO), as a tool of learning during Internal Medicine's discipline. The result was a course that provided the students with a startup hospital's routine, based on clinical cases analysis at Gaffrée e Guinle University Hospital. The tool's usability consisted on a case study regarding medical record involving a patient that was treated by the teacher/tutor. For this

purpose, the teacher gradually provided patient’s record information to students, in which students were able to consolidate analysis, associated with the theoretical and practical content learned during the Internal Medicine discipline.

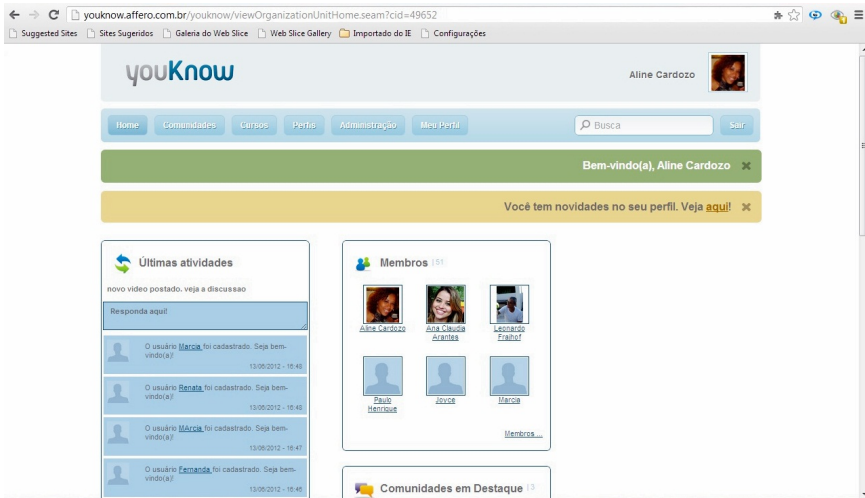


Fig. 2. Image 2: Example of screenshot when the user logs on

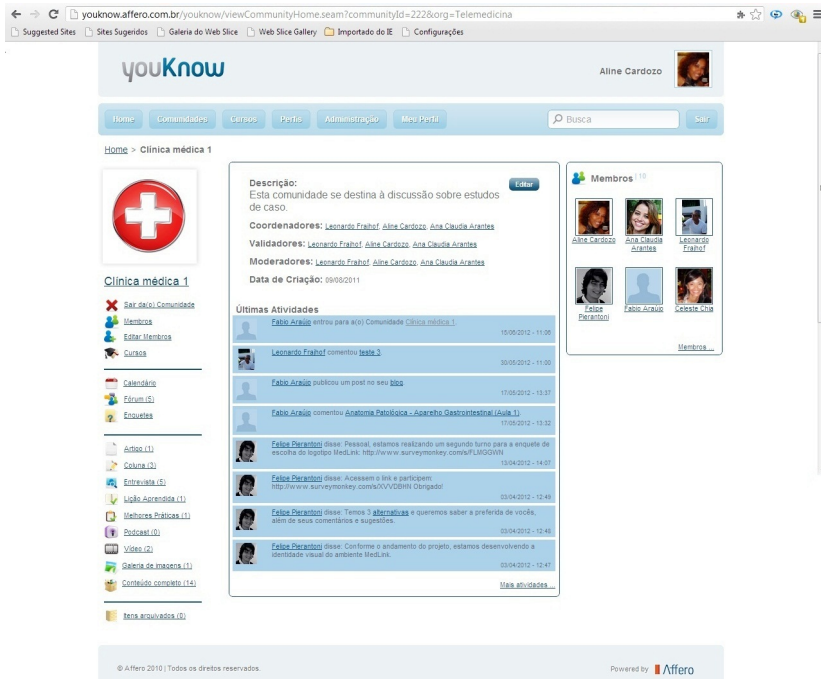


Fig. 3. Example of screenshot of the Internal Medicine community

At first, a Group of Interest was created and nominated as Internal Medicine. Furthermore, the students published the information from the medical records, regarding relevant questions, such as research materials and scientific literature, differential diagnoses, and the patient's diagnosis confirmed by teacher/tutor. This information was organized from items previously established in the Group of Interest such as *lectures, best practices, articles, forum, image gallery, videos, interviews and column*.

3 Results

In order to initiate content publishing, the students chose the methodology item *Lesson learned*. The choice was motivated by the fact that this item had already indexed questions that could precisely guide the case's content by students. After publishing the patient's anamnesis on this item, named CASE 1, which contain differential diagnoses and illustrations related to the topic, the teacher/tutor used the item *Best practices* to disclose the imaging that was used to diagnose the patient's disease: Computed Tomography and Magnetic Resonance Cholangiopancreatography. Related to this experience, students then published a scientific article in item *Article*, entitled "Diabetes mellitus and ductal carcinoma of the pancreas", once it was considered relevant and similar to the case studied.



Fig. 4. Example of a screenshot showing the item *Lesson learned*, with the *CASO 1* published

During the process analysis of the case, the questions were published under the item *Forum*, with the purpose of being answered by the teacher or even by the students.

On weekly meetings, the teacher release by date the complementary exams performed by the patient into the item *Gallery* and two streaming videos from Endoscopy and Cholangiography into items *Videos*. In the item *Interview*, imaging and laboratory exams were posted. This item was also used to transcribe the patient's record. Gathering all of this information, released by the teacher, and browsed by the

students, the latter were able to diagnose correctly the case. After the teacher/tutor’s approval, confirming the diagnosis, the case study was published under item *Lesson Learned* as a summary. And at the item *Column*, a Power Point presentation was published based on patient pathology.

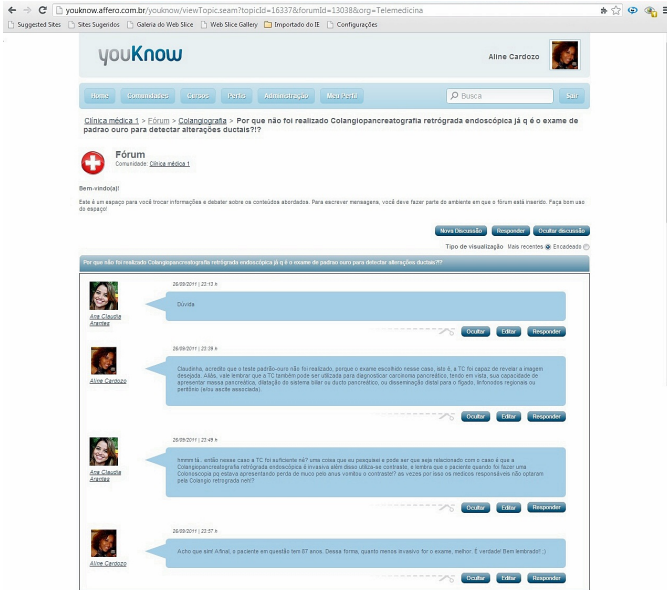


Fig. 5. Example of screenshot of the platform, displaying the *Forum* item created by the students

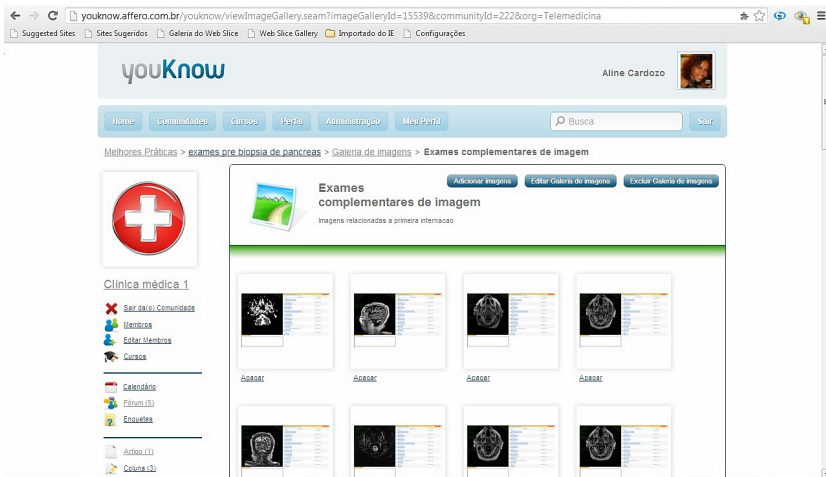


Fig. 6. Example of a screenshot of the collaborative learning platform displaying images related to the case in the item *Gallery*

At the end, the students gathered all the information posted through the items *THIS ITEM IS RELATED TO*, since all the information was related. The students used all the available learning tools, except for the item *Podcast*, since they lacked suitable material to perform audio recordings.

4 Conclusion

Students and teacher/tutor had a positive evaluation regarding the usage of Youknow, a collaborative learning platform in the process of teaching and learning. The usage of a collaborative learning platform stimulates students' participation, allowing them to express their opinions, and discuss with experienced professionals. Students have learned how to collect bibliographic data and to critically analyze it. Considering the complexity for searching the right diagnosis, a collaborative discussion allowed students to understand the relevance of browsing through different sources, and how an interactive discussion can save time in order to formulate the right diagnosis, which is not often reached during classes. Also, online tool enables content's access anytime/anyplace and shape their own learning's needs. One of main factors influencing positively the use of this platform was its easy access, which can be done through computers or mobile devices. The popularity of social networks as Facebook, Twitter, and Instagram contributed to the positive evaluation of Youknow, whereby students are familiar with its use and this tool allows a horizontal relation among users.

Finally, the social networking as a collaborative learning platform tool, in academic environment, can be useful because encourages students' autonomy, active participation and understanding of the complexity surrounding the studied cases. The interpersonal and intrapersonal relationships are also encouraged in this process, being important for the formation and maturation of an active individual in society.

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