SELF-ASSESSMENT SURVEY: A TOOL FOR DATA MINING IN THE VIRTUAL LEARNING ENVIRONMENT

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Abstract
The Open University of the Unified Health System, of the University of the State of Rio de Janeiro (UNA-SUS/UERJ), focuses on meeting the training needs and ongoing education of health professionals. The object of study was to analyse the student's route in the virtual learning environment (VLE) and measure their degree of satisfaction in the completion of the self-instructional course "Approach of Violence in Home Care" using a self-evaluation survey. Data were collected from 63 participants between 4 August 2016 and 10 October 2016. Results: 89.0% of the students followed the course in the order of the units of each book, 85.7% reported that they did not stop studying any subject to move to another unit, 66.7% did not have difficulty in accessing the didactic materials in VLE, 98.4% indicated that the content was presented with clarity and was easy to understand. In addition, 73.0% reported that the content of the course met their expectation of teaching and learning, and that 81.0% of teaching materials were useful for learning. Students were satisfied with the course, and its design which aided access to content and navigation in the VLE. The metrics collected in the VLE will be used to guide the development of new projects, and will help in the planning and development of new courses.

Keywords: eLearning; education; evaluation; eHealth; virtual learning environment

Introduction
The Open University of the Unified Health System (UNA-SUS) was created in 2011 by the Ministry of Health, with its main focus on meeting the training needs and ongoing education of health professionals working in the SUS. Since then, several courses of specialisation and extension have been created and made available in priority topics in the area of health, in the form of Distance Education (EAD). The University of the State of Rio de Janeiro has integrated this network, creating UNA-SUS/UERJ for the same purpose.

Within this context, UNA-SUS/UERJ offers a self-instructional course, Approach to Violence in Home Care at extension level, in the distance modality (EaD). The aim of the course, which runs for 45 hours, is to train health professionals to work in the field of Home Care. Its programmatic content provides analyses of the impact of violence on health and the family environment, focusing on situations of violence in each population segment and in the daily life of the home care professional within the communities and in areas at greatest risk. From the materials available, the course aims to provide a contextual approach to violence.

The Approach to Violence in Home Care course was produced from the principle of creating learning possibilities through the system of intelligent tutorials, which uses the interface language to assist the student in understanding the content as an Active actor in the process of teaching and learning. The instructional designer, structured the course in a linear way, ie, pre-setting the order of the units of each book to be studied. However, the virtual learning environment (VLE) was configured to allow the student to begin their studies independently of the linearity of each unit / book, since the configuration of the environment was carried out in such a way that the student has autonomy in choosing the unit with which they want to start their studies without prejudice to their learning. That is, linearity is structured in the access to the books of each unit, as well as, access to VLE.

According to Simão "When the student is allowed to choose the sequence of learning contents, one has the non-linear instruction. Another type of instruction, which already establishes the order of the contents to be studied, and only allows the student control over
the progress and pace of their learning is called linear self-instruction.

Providing users with a self-explanatory course that assists in the construction of knowledge and with a level of satisfaction that enables them to complete a fully self-instructional course has been constantly monitored in our research.

According to the Aurélio dictionary, the word "path" is described as "the distance travelled, movement, path, spin". Possibly realising the linear or non-linear path within the VLE helps to identify positive and negative points in relation to the student's movement in the course and consequently their satisfaction in carrying out the studies. According to Filatro, "VLE needs to have an easy navigational interface."

The aim of this study was to analyse the path of the student in the accomplishing the self-instructional course and verify their degree of satisfaction in the end of the course. To do this it is necessary to answer the following questions: what was the path of the student in the course? Was it difficult for the student to access the learning materials in the VLE? Did the student stop studying some subject, opting to move to another unit? In assessing the student's satisfaction regarding the level of knowledge acquired by the end of the course, what was the content of the course presented with clarity and ease of understanding? Did the content of the course meet their expectations of learning? Were the activities requested based on your learning in the course? Were the teaching materials presented useful for learning?

Methods

The methodology used was called action research, because according to Fonseca, the research process uses a systematic methodology, in the sense of transforming the observed realities, from their understanding, knowledge and commitment to the action of the involved elements in the research. A quantitative approach was used to analyse the students perceptions and path in the VLE.

Students completed an online Self-Assessment of the Course survey. The survey addressed the profile of the student; the student's path in the module; whether the student had difficulty in accessing the didactic materials; and if the student failed to study some subject, choosing to advance to the other unit. In addition, an assessment was made of the student's degree of satisfaction at the end of the course, using a six point scale, from zero to five, where zero indicated very dissatisfied and five very satisfied.

Results

Between August 4, 2016 and 10 October 2016, 314 people participated in the course. Sixty-three people completed the voluntary questionnaire. The respondents were predominantly women 77%. The ages of respondents are shown in Table 1.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>21-30</td>
<td>35.4%</td>
</tr>
<tr>
<td>31-40</td>
<td>33.8%</td>
</tr>
<tr>
<td>41-50</td>
<td>15.3%</td>
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<tr>
<td>51-60</td>
<td>14.0%</td>
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<tr>
<td>Above 60 years</td>
<td>1.5%</td>
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</tbody>
</table>

Path Analysis

The majority, 56 (89.0%) of students, reported that they started navigating the VLE in the order that was suggested in the contents. Only 6 (9.5%) indicated that they started with the lowest content and one started with what they found the easiest (1.6%).

Two thirds of people had no difficulty in accessing the didactic materials in the VLE and 85.7% went through all the materials made available.

In the satisfaction survey, 98.4% of the students rated the clarity and ease of understanding the course at 4 or 5 out of 5 with one person rating it 3 out of 5. The content of the course reached its expectation of teaching and learning within a self-instructional course with 73% rating it as 5 and 25.4% at 4. One person was not satisfied and rated it as 1 out of 5.

Similarly 73.0% (rating 5) and 25.4% (rating 4) of students indicated that the requested activities within the content were carried out based on the learning in the course.

The data show, that 81% of the students affirm that the didactic materials made available for the construction of the knowledge presented in the course were considered useful for learning with 81% rating it as 5 and 15.9% as 4.

Discussion

Analysis of the satisfaction of students with the virtual learning environment serves as important feedback to course designers and developers. The process is facilitated by having the survey built into the system.
Student's had a positive perception of the path in the VLE of the course Approach to Violence in Home Care. Most followed the path in the order of the units of each book independently of the freedom to access them at random, and they did not stop studying some subject, choosing to move to another unit. Students were satisfied with the presentation of content in terms of clarity and understanding, the expectation of learning in the course, activities and the provision of didactic materials. The findings are guiding the construction of new courses.

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Conflict of interest. The authors declare no conflicts of interest.

References

6. Ardito, Carmelo, et al. An approach to usability evaluation of e-learning applications. Available at: http://www.qou.edu/arabic/researchProgram/eLea...