

Using a rich internet application to teach histology

Authors: P. Quatresooz, V. Defaweux, L. Rollus, B. Stevens, R. Marée, V. Martin, B. Lecomte, J.-F. Van de Poel, P. Schaffer, L. Wehenkel, D. Verpoorten

Introduction

In 2012, medical studies in Belgium has undergone an important reform. At the University of Liège, the changes lead to a rocketing rise of the number of students, inducing serious problems regarding the management of the practical sessions in histology. The team of teachers took this renewed context as an opportunity to thoroughly revamp their teaching methods. A strong eLearning component has been set up, stimulating both students' acquaintance with digital microscopic images and autonomous learning. An existing, web-based, image storage and analysis platform [Marée et al., 2013] called Cytomine (<http://www.cytomine.be>) was selected to host pedagogical resources and activities. The articulation between individual work, face-to-face course and practical sessions in labs has been revised in search of a stronger convergence. A pilot group of students has tested the eLearning tool in December 2013 before their exam. This abstract a) describes the instructional design of the blended learning setting with an emphasis on how the professional platform was accommodated to training purposes, b) reports about aspects of the student's experience with the new tool.

Material and methods

Sample and schedule: the subjects are 270 students of third year who had access to the tool from 20 December to their exam one month later.

Course: the course is special histology. It aims at making students familiar with the fundamentals of organs and tissues identification and comparison.

eLearning component: The user interface of the Cytomine web platform was simplified and new web services were developed to make it appropriate for training purposes. It hosts for this course 50 histological sections. Students were mainly confronted to two types of learning activities: exploration and annotation of digital slides. They were requested to use the tool in supplement of regular courses and face-to-face sessions.

Measure instruments and data type: an ad hoc questionnaire has been designed to collect students' feedback on their experience with the new method and tool: usefulness and limitations of the eLearning component, sense of learning, perceived convergence with the course, etc. This qualitative data will be related with students' score at the exam which followed the eLearning sessions, and with basic behavioral metrics automatically extracted from the Cytomine platform in order to outline study traits.

Results and discussion

By the time this abstract is submitted, the exam is on its way. It is therefore impossible to provide genuine results. Some preliminary assumptions can nevertheless be made, based on tutors' experience and observations while coaching the eLearning session. The tool seems to have been welcomed by the students. Most of the exercises were duly performed and calls for help were kept limited. It advocates for a satisfying interface and task definition. It will be the work of the full-fledged analysis to nuance this perceptual data.

Conclusion

Based on a combination of self-reported data, performance records and interaction histories

obtained through data mining, this preliminary and ongoing work explores students' perceptions and training behaviors when experiencing an integrated eLearning module. Documenting such an innovative setting opens promising avenues to address issues related to the transformation of teaching/learning methods in medical education.

References

[Marée et al., 2013] A rich internet application for remote visualization and collaborative annotation of digital slide images in histology and cytology, BMC Diagnostic Pathology, 8 (Suppl 1) : S26.
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