

RuoLan Wang

The University of Nottingham, United Kingdom

Exploring students' perceptions and preference of using visual technologies in innovative veterinary education (0301)

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The School of Veterinary Medicine and Science at the University of Nottingham makes extensive uses of visual technologies for teaching and learning. All students are provided with laptops and wireless Internet connection is accessible throughout the whole School. In addition, facilities such as interactive whiteboards and ceiling visualisers are also employed to offer students with opportunities to enrich their learning. Based on a short system-based Reproduction module, this study intended to review how extensively the different types of technologies are being used by students, and what the impacts are on their overall learning. This paper reports the findings emerging from analysis of both qualitative and quantitative data and explores students' perceptions and preference of using various visual tools. The pros and cons of different visual technologies and how they can be intergated more effectively to encourage learners' engagement and promote student-driven learning are also discussed.

Introduction

The School of Veterinary Medicine and Science (SVMS) at the University of Nottingham was newly founded in 2006/7 and has been established to be innovative in many aspects of delivery and organisation. The SVMS curriculum is considered as integrated, outcomes-based and student centered and the School makes extensive uses of visual technologies for teaching and learning. All students are provided with laptops. Wireless Internet connection is accessible throughout the whole School. In addition, the School has also worked closely with the Visual Learning Lab in the introduction of visual facilities such as electronic interactive whiteboards and ceiling visualisers in order to offer students with opportunities to enrich their learning. However, much of this work is at this stage experimental and there are many questions to be addressed in relation to this aspect of the curriculum.

The case study

Based on a short system-based Reproduction module, this case study intended to review how the different types of technologies are being used by veterinary students, and what the impacts are on their overall learning. The Reproduction module runs for five weeks and it introduces concepts such as the biology of the oestrous cycle, pregnancy diagnosis, male and female reproductive anatomy, all of which comprise essential foundation knowledge relevant to clinical practice. This case study employed an ethnographical approach for data collection via two focus group interviews with 6 students along with observations of a number of teaching, learning and practical sessions. An open-ended questionnaire was also given to students at the end of the module to assess students' perceptions of technology uses. In total, 90 questionnaires were returned from 101 students.

Main findings and discussion

This paper reports the findings emerging from analysis of both qualitative and quantitative data and explores students' perceptions and preference of using various visual tools. The pros and cons of different technologies and how they can be intergated more appropriately to encourage leaners' engagement and promote student-driven learning are also discussed. Discussion are based on the following main findings:

- The data confirms the high percentage of ownership of mobile devices and computers in student population. Most students feel comfortable with the technologies offered by the School and appreciate the positive impact of using visual technologies on their study.
- Data from both questionnaire and focus groups confirms that among all uses in the School, laptop, the virtual learning environment (WebCT) and wireless Internet connection were rated as the three most popular uses by the students.
- In terms of frequency use, 94% (N=90) indicated that they 'always' use laptop, 88% on WebCT and 92% on Internet. Equally, 92% considered the laptop is 'very important' to their learning, 89% on WebCT and 91% on Internet.
- Interactive whiteboards are mainly used in small group learning sessions and the ceiling visualisers are installed in the School's anatomy laboratory and surgery suite for the purpose of demonstration. Comparably, whilst being recognised the benefits of usage, they both were used less frequently by students. It is anticipated that the 'ownership issue' and 'non-portable features' are the two main contributing factors to this finding. It indicates that students in this generation are more in favour of those technologies which allow immediate and 'anytime, anywhere' access flexibility.
- When asked about what the main reasons are for accessing the Internet during the teaching and learning sessions, students responded in three broad areas: firstly, to search subject specific information on the Reproduction cases, such as checking medical terminologies via Google; secondly, to check module related information, such as checking timetable and downloading lecture PP via WebCT; and finally to keep contact with other, such as using email or other social networking sites like the Facebook.
- There is a slight concern from some students on their peers using social networking sites during lectures but generally, most considered such a negative impact is almost insignificant. The study argues that whilst most teaching staff concern about the inappropriate use of Internet connection during lectures, focus should be placed on overcoming the barriers to alignment between pedagogical approaches to learning and teaching, and the innovative technologies used in classroom.
- There is currently no routine recording of lectures for viewing after the lectures. However, students' responses demonstrated an interest in this: 89% students were keen to have their lecture available for review online. The questionnaire shows that 84% students own MP3 and/or iPod; 60% own MP3 capable phone and 99% have PC and/or laptop. The high percentage ownership of the MP3 devices indicates that the School might need to response to the needs of the new 'net generation' (Oblinger & Oblinger 2005). From the questionnaire data, it is clear that large numbers of students are interested in video-streaming and pod-casting of lectures, it is suggested that these technologies should now be

embedded appropriately into teaching activities to provide more flexibilities and hence enhance student learning experiences.

Conclusion

This paper provides some evidence-based suggestions on how to better promote communication, collaboration, teaching and learning by using visual technologies. It believes that it can be achieved by understanding and accepting the limitations of different technologies and making sensible decision about how to integrate them into current curriculum. It also gives a broader view on visual technologies uses in HE and hence encourages new ideas in order to provide a more imaginative approach to teaching in veterinary education and other similar settings.

Reference

Oblinger, D.G., and Oblinger, J.L. (eds) (2005). *Educating the net generation*. Educause. www.educause.edu/educatingthenetgen/ Last accessed 17th July 2009.