Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 6, Issue, 08, pp.8153-8155, August, 2014

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

INTRODUCTION OF COMMENTED VIDEO SEQUENCES DURING ANATOMY LECTURES

[1,2]*Philippe Manyacka Ma Nyemb

[1]Laboratory of Anatomy and Organogenesis, Faculty of Health Sciences, Gaston Berger University, Saint-Louis, Senegal
[2]Department of General Surgery, Regional Hospital, Saint-Louis, Senegal

ARTICLE INFO

Article History:
Received 24th May, 2014
Received in revised form
16th June, 2014
Accepted 07th July, 2014
Published online 31st August, 2014

Key words:

Video, Teaching anatomy, Evaluation.

ABSTRACT

Because of the advent of new technologies of information and communication, teaching methods are changing in medical schools. The use of video for teaching anatomy is an interesting innovation, because studies show that it improves the performance and motivation of students. A few months after the introduction of the use of video for anatomy lectures and praticals, we evaluate this method with our first year medical students. This evaluation was conducted on several aspects through a Likert scale. This work highlights the interest of using video to our students. It shows a better understanding of the anatomy course and an increased student involvement. Thus, to optimize teaching methods, it is important to combine new technologies with traditional education.

INTRODUCTION

The use of new technologies for information and communication in university pedagogy has revolutionized traditional methods of teaching anatomy (Paalman, 2000). The advent of computer-assisted imaging techniques has led to profound changes in the teaching of theoretical anatomy (Paalman, 2000, Carmichael *et al.,* 2000). Although traditional methods are still important, students and teachers adapt to new technologies, especially to animated images. This work aims to improve educational conditions. It collects the opinion of medical students about the introduction of video sequences in the teaching of anatomy.

MATERIALS AND METHODS

We used an anonymous questionnaire to gather the opinions of first-year students at the end of the academic year. The investigation focused on the teaching of anatomy done between October 2013 and March 2014. Through a 5-points Likert scale, students were asked their point of view on changes brought by the introduction of the video sequences for teaching anatomy.

Corresponding author: [1,2]Philippe Manyacka Ma Nyemb
[1]Laboratory of Anatomy and Organogenesis, Faculty of Health Sciences, Gaston Berger University, Saint-Louis, Senegal.
[2]Department of General Surgery, Regional Hospital, Saint-Louis, Senegal.

A space was provided for free comments and observations. The collected data were processed using SPSS and Microsoft Excel softwares.

RESULTS

57 students out of 60 in total (95%) responded to the questionnaire. Detailed results are presented in Table I. In the free comments students insisted on the importance of the study of anatomy in medicine, the interest and reliability to learn anatomy using video sequences, the difficulty to adapt to new technologies for students who do not own a computer, the need to get video projections more interactive for students, and the importance of not completely abandon the teaching of Anatomy according to classical methods.

DISCUSSION

The use of video-based courses enriched the training curriculum in areas such as anatomy and physiology. The video is considered an effective way as it binds the audio and visual together to provide the learner a multisensory experience (Constantinou *et al*., 2004). Even from the point of view of the students' perspective, the video is an interesting way because it strengthens the satisfaction and motivation in the learning process (El-Sayed *et al*., 2013; Choi *et al*., 2005). Moreover, video can help learners understand and remember more easily pedagogical content (Jonassen *et al*., 2003). In recent decades, medical schools have reduced the time allocated to the teaching of anatomy. Consequently, these schools encourage their

students to move towards the use of new technologies of information and communication in order to improve their learning. Thus the use of video for teaching anatomy is an interesting innovation, since it improves students' performance and motivation (Saxena *et al*., 2008; Biasutto *et al*., 2006). Kalwitzki *et al*. (2003) compare four teaching methods and found that the video is preferred by students, followed by seminars, lectures and slides.

teaching of anatomy and other disciplines. Videos were sometimes used in substitution of practicals of anatomy or in case of overcrowding of students (Pereira *et al*., 2004). In our context, the use of videos allows to solve part of the problem of the lack of corpses. It presents to the student a reliable anatomy in 3 dimensions. Despite computerization of anatomical resources offering to medical students new opportunities to approach anatomy, video and new technologies can not completely replace other teaching methods. For example the

Table 1. Student responses to the anonymous survey on the use of video sequences for anatomy teaching (N = 57)

PROPOSALS	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly Agree (%)
The use of commented videos in anatomy makes the course more interesting	5.3	5.3	12.3	33.3	43.8
Commented videos should be more frequent	8.8	22.8	10.5	40.4	17.5
Commented videos allow a better understanding of the anatomy lesson	10.5	10.5	7	38.7	33.3
Commented video sequences show an "in vivo" anatomy that could be "shocking" for students	42.1	40.3	10.5	1.8	5.3
The projection of commented videos sequences can totally replace the "conventional" anatomy teaching	22.8	45.6	15.8	10.5	5.3
These commented videos should be more interactive and include the participation of students	5.3	5.3	3.5	42.1	43.8
Commented videos must cover the whole anatomy program and not be limited to some lessons	19.4	28	8.8	14	29.8
In Licence 1 (first year), it is too early to introduce videos for anatomy teaching	38.6	26.3	15.8	7	12.3
I am satisfied with the quality of videos and with comments	5.3	17.5	14	47.4	15.8
Commented videos should also be used for other morphological disciplines	7	12.3	8.8	45.6	26.3

It is well documented that different teaching approaches or styles may have different influences on academic performance of students (Biggs *et al*., 2011). Specifically, it was suggested that new technologies such as video-based education can improve student learning scheme. Our work shows approval from students about the usefulness of the use of video in anatomy, the need to make videos most interactive and to apply this method to other morphological disciplines. However our students belie the traumatic nature of projected videos. And according to them, it is not too early to introduce this method in the first year of medicine. Our students also insist on the fact that conventional methods remain important in the teaching of anatomy. Few studies actually demonstrate the superiority to use the video in anatomy compared to other methods (lectures, oral presentations and sketches on the board). However, it has clear advantages in addition to the theoretical: it captures the attention of students and facilitates their understanding of complex anatomical relationships and functional anatomy. It also allows to incorporate other teaching supports (as text, graphics, sounds ...). In the absence of use of videos, Pereira *et al*. (2004) noted a decrease in academic performance and a lack of interest among students in first and second years of descriptive anatomy. Arguments against the use of video are that it can result in a lack of attention due to environmental factors (such as poor lighting, poor quality video, and communicational problems). It therefore requires complete and effective equipments in the classroom.

The use of video can be recommended for medical studies. When comparing video-based teaching to lectures, students mark their preference for video (Kalwitzki *et al*., 2011). In fact, videos have been used for many years as a supplement to the possibility of direct contact with tissues and anatomical components cannot be bypassed. The best formula is the combination of all of these complementary resources.

The medical imaging techniques can complement the use of video. They are much more recent opportunities for teaching anatomy. Techniques such as MRI, CT or ultrasound are useful tools for the study of three-dimensional anatomical relationships. Images can be recorded and stored. They can thus be analyzed in detail by students, and used for other lessons. In addition, images can be manipulated to make disappear some structures such as bones, allowing a more detailed study of some organs and their vascular reports. This particular application found in the latest imaging techniques is considered by some as the modern equivalent of the traditional anatomical dissection (Rizzolo *et al*., 2006). Endoscopic views of the internal anatomy in living subjects obtained during diagnostic and therapeutic procedures are a realistic and effective opportunity for teaching anatomy. These procedures allow for example to obtain an "in vivo" view of structures contained in the peritoneal cavity. The use of online social networks is also an interesting option. Because of social networks, it is possible to reshape and strengthen the teaching and learning of anatomy. The majority of medical students use online resources to supplement their learning of anatomy, but not as frequent each others. Jaffar (2012) found that for 92% of medical students, anatomy videos online allow a better understanding of the course. Thus, sites such as "YouTube", when used properly, can be considered effective tools for learning anatomy. However, the video must be of good quality and obey the course objectives.

Conclusion

Our work suggests that the use of video in anatomy reinforces the interest and understanding of students. This type of education must take into account the quality of videos and course objectives. The video-based teaching in anatomy must be part of a more general framework where new technologies of information and communication coexist with conventional education.

REFERENCES

Biasutto SN, Ignacio Caussa L, Esteban Criado Del Rio L. 2006. Teaching anatomy: cadavers vs. computers? Annals of Anatomy-Anatomischer Anzeiger, 188(2): 187-190.

Biggs J, Tang C. 2011. Teaching for quality learning at university. Mc Graw-Hill International.

Carmichael SW, Pawlina W. 2000. Animated PowerPoint as a tool to teach anatomy. The Anatomical Record, 261(2): 83-88.

Choi HJ, Johnson SD. 2005. The effect of context-based video instruction on learning and motivation in online courses. Am J Dist Educ, 19(4): 215-227.

Constantinou C, Papadouris N. 2004. Potential contribution of digital video to the analysis of the learning process in physics: A case study in the context of electric circuits. Educ Res Eval, 10(1): 21–39.

El-Sayed RESH, El-Sayed SEHAER. 2013. Video-based lectures: An emerging paradigm for teaching human anatomy and physiology to student nurses. *Alexandria Journal of Medicine*, 49(3): 215-222.

Jaffar AA. 2012. YouTube, An emerging tool in anatomy education. Anatomical Science Education, 5(3): 158-164.

Jonassen DH, Howland J, Moore J, Marra RM. 2003. Learning to solve problems with technology: A constructivist perspective. Columbus, OH: Merrill.

Kalwitzki M, Meller C, Beyer C. 2011. Does teaching method affect students' perception regarding communication patterns in pediatric dentistry? A comparison of lecture and video methods. *Journal of Dental Education*, 75(8): 1084-1091.

Kalwitzki M, Rosendahl R, Göttle R, Weiger R. 2003. Acceptance of video-based teaching in pediatric dentistry by undergraduate dental students. *European Journal of Dental Education*, 7(2): 66-71.

Paalman M. 2000. New frontiers in anatomy education. The Anatomical Record, 261(2): 47-47.

Pereira JA, Meri A, Masdeu C, Molina-Tomas MC, Martinez-Carrio A. 2004. Using videoclips to improve theoretical anatomy teaching. *Eur J Anat*, 8 (3): 143-146.

Rizzolo LJ, Stewart WB. 2006. Should we continue teaching anatomy by dissection when…? The Anatomical Record Part B: The New Anatomist, 289(6): 215-218.

Saxena V, Natajaran P, O'Sullivan PS, Jain S. 2008. Effect of use of instructional anatomy videos on student performance. *Anatomical Science Education*, 1(4): 159-165.

****