Chemistry.FM: The use of video clips produced by students in the teaching of chemistry

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Chemistry.FM

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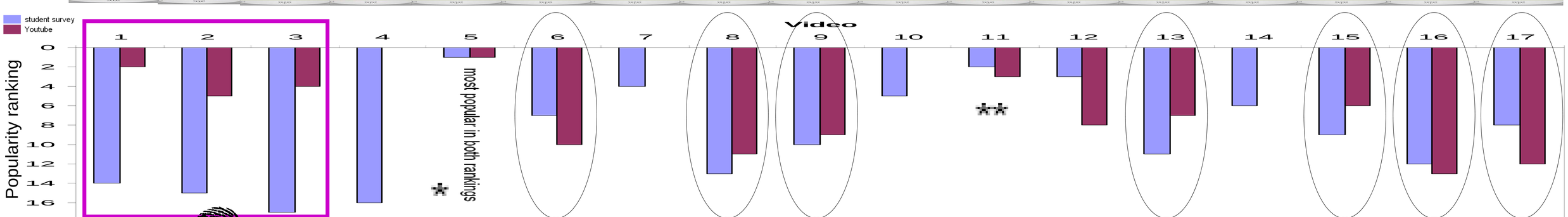


Introduction

One aspect, which we concentrate on here, of the Chemistry.FM project was the release of a number of student-produced videos in which students became teachers. It is known that successful learning can take place through student peer interaction in formal and informal settings and that students as teachers is a key aspect of any teaching and learning strategy. We took advantage of the communication skills used between students in informal learning within these video clips. The evaluation of the videos via a student survey of first years forensic science students (35 individuals) and the results obtained in YouTube (more than 16500 views) offered very interesting conclusions.

Production

Students from the Media, Animation and Forensic Science courses at the University of Lincoln worked together to produce these video clips. Seventeen clips were produced and 13 were uploaded in YouTube for public evaluation (four are being revised because of copyright issues or errors). These clips cover different areas of chemistry in forensic science, such as calculations, theoretical concepts and practical applications. Students took 8 weeks to write the script and produce and edit the video clips. The Chemistry.FM project also produced 5 radio programmes on the involvement of chemistry in different areas of forensic science:
1. Murder by Poison 2. DNA profiling 3. Crime Scene Investigation
4. Forensic Toxicology and 5. Insects and animals in forensic science.
Specialists in these areas were interviewed and gave their views on the relevance of chemistry in these areas.

Results

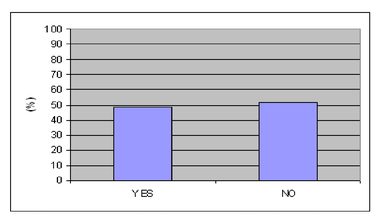
Snapshots of the videos can be seen on the main figure above. Below the videos the bars represent the position they obtained in a ranking we produced from the information we gathered from a student survey and YouTube views. The most popular clip (* 5-mole calculations) obtained the top position in both rankings. The second most popular (** 11-Beer-Lambert law) was scored 2nd and 3rd in both rankings. These are videos explaining how to perform calculations. Interestingly those videos explaining how to calculate different variables were the favourite ones of our students. Those related to more theoretical concepts were scored lowest by our students but got the highest number of views on the internet. In general terms there is a good agreement between internet and student survey data -with higher agreement in the middle section of the graph (circled in the graph). There are some discrepancies though already mentioned (squared). The students were also surveyed in the general use of audiovisual material (see a sample of the answers below).

Conclusion

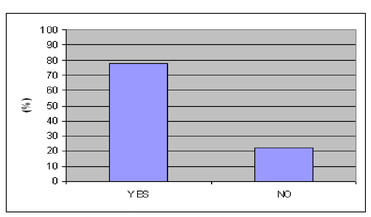
Students seem to find audiovisual resources useful but it is curious that many of them still prefer the traditional tutorial system to solve their doubts rather than accessing the information and attempting to solve them themselves (especially first years).

Acknowledgements

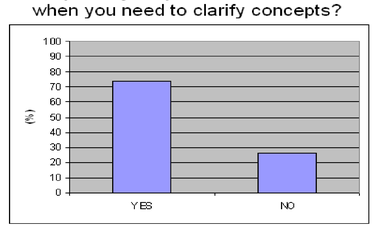
HEA, JISC and the University of Lincoln for financial support



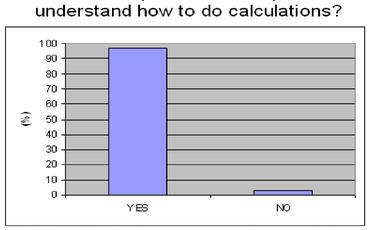
Do you regularly use audiovisual media when you need to clarify concepts?



Were the clips useful to help to understand how to do calculations?



Did you use the videos to clarify concepts?



Did the clips help you to understand theory?