

LSIS Practitioner Enquiry: Using iPad Apple technologies to promote student learning in biology

LSIS Research



LSIS, Friars House, Manor House Drive, Coventry, CV1 2TE.
t 024 7662 7900 e enquirescoventry@lsis.org.uk www.lsis.org.uk
Registered in England and Wales Company no 06454450 Registered
charity No 1123636 Registered office Friars House, Manor House
Drive, Coventry CV1 2TE

David Woods

Background

I have always had a particular interest in Information Learning Technology and have incorporated it into my teaching since the beginning of my teaching career. I feel that it can be used to improve the delivery and consolidation of learning in a more engaging and interactive way. I was introduced to Apple iPad technologies by college INSET where a number of applications were demonstrated. Staff who were interested in progressing their knowledge of these technologies were encouraged to write a proposal to the senior leadership team on how they felt they could be used to progress teaching and learning in their subject.

Starting point

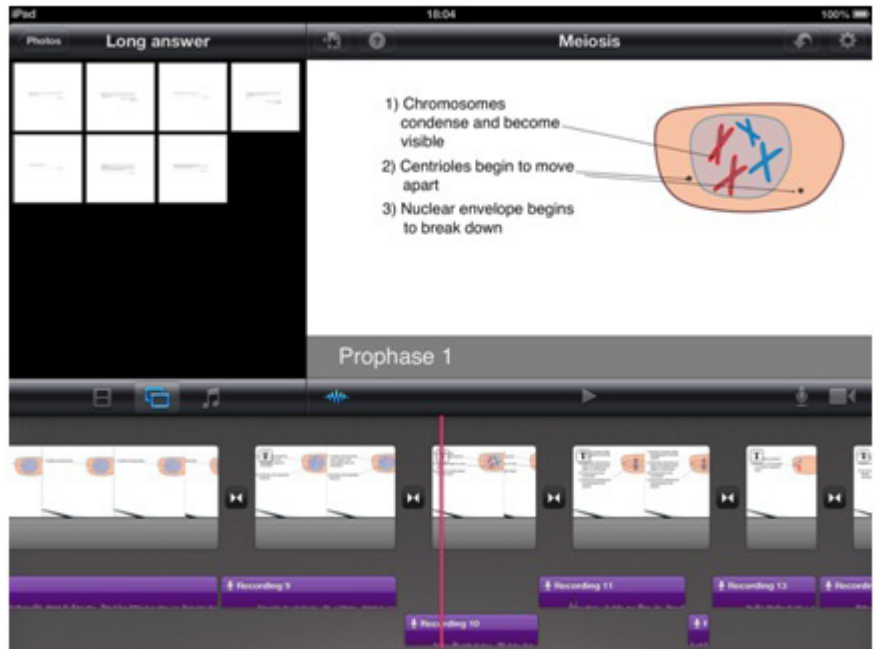
The two iPad applications I found most appealing were 'iMovie' and 'creative book builder'.

- iMovie is an application produced by Apple which allows the user to construct videos using self-captured film and photographs and assemble them into a sequence which can then be annotated and/or talked over.
- Creative book builder is an application that allows the user to write materials and incorporate them into an e-book. The application also allows videos to be embedded into the ebook along with photographs and hyperlinks to websites.

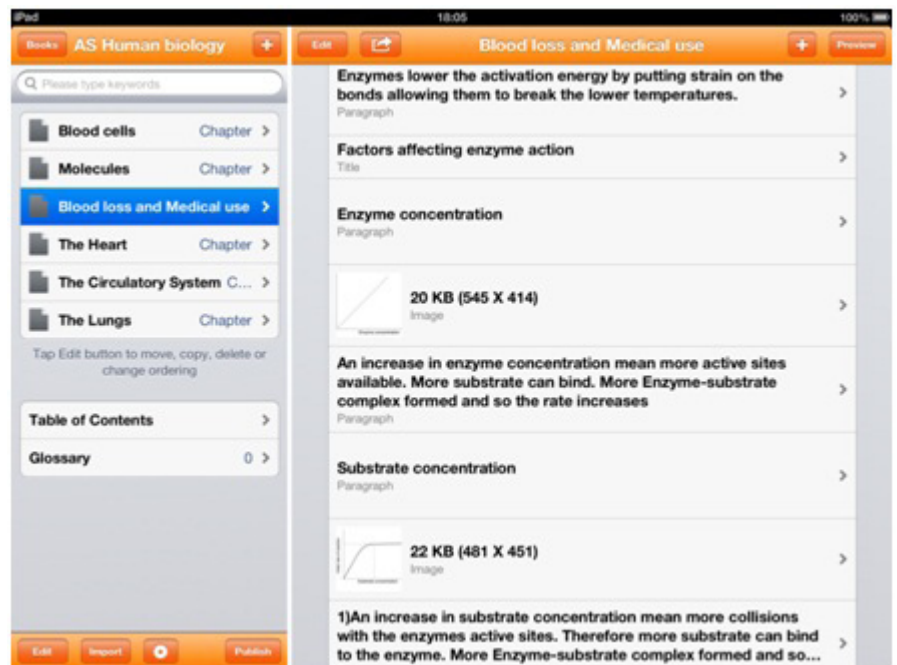
I set out to include resources produced with these two applications on the departmental website that had been created specifically for four AS human biology classes at Winstanley College, as part of a new A-level course that had been introduced in September 2012. The newly developed Human Biology website included various key elements, such as resources, homework tasks and revision activities, but at the heart of the site was a yearly plan showing all the lessons and topics due to be covered. Thus, the web-based planner made it possible for students to access homework tasks and associated resources before and/or after the lesson, to help them prepare for the lesson and consolidate their learning afterwards.

Teaching and learning process

I used the iMovie application to make video tutorials on key aspects of the course. After completing homework, all students filled out evaluation sheets where they could highlight the areas that they found most difficult to understand. This was then used to develop tutorial videos to help support their learning.



I used the Creative book builder application to write a revision ebook covering each of the exams topic areas. The ebook was written in the traditional format making it visually appealing however additional features were added. These features included embedded video, photographs, website hyperlinks and automatic assessment materials.



Impact

The use of iMovie allowed individuals across a wide range of abilities to access the videos at any time. Students used the videos along with additional exam questions and model answers that could be downloaded from the site to get immediate feedback on whether they were on track or needed further help in a one-to-one tutorial. Virtually all the students surveyed (98%) either agreed or strongly agreed that the on-line tutorials had

benefited their learning. The use of creative book builder in the production of a module one revision guide was described by most of the students who used this e-book as either beneficial or very beneficial to their revision. As human biology is a new course introduced by college it is very difficult to test quantitatively if these changes actually improved student performance as there is nothing to compare these changes to,

but subjectively I think that the students have made serious progress in their own learning. Student positivity remained high throughout the year, with students asking for more tutorials, but more importantly asking for key aspects of the course to be explained rather than generic topic areas. For example students did not ask for tutorial videos on a whole topic, such as 'blood molecules'. Instead, they picked one very small and difficult aspect of that

topic 'condensation reactions between adjacent amino acids'. This showed that the students had engaged with the homework tasks and additional materials to work their way to a stage where they could ask for more specific and in-depth help than they would otherwise have been able to.

Conclusion

The combination of web-based resources allowed students to continue their learning about biology outside the classroom. This has been really beneficial because the students could explore concepts more widely and work more efficiently than they would have done without the teacher's input.

With the course being in its infancy, although the students' comments and reaction have been very promising, I feel with greater time to develop more tutorials on the platform which students can draw from, their engagement with learning about biology will continually increase. The availability of these tutorials and additional materials could also encourage greater student participation in lessons even before the lessons have taken place.

Contact

This study was carried out by David Woods who is Assistant Head of Biology and Human Biology Co-ordinator at Winstanley College. If you have any questions or comments, please email: Dave.Woods@Winstanley.ac.uk