TABLET COMPUTERS IN EDUCATION

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Abstract

Tablet Computers are quickly emerging as a powerful Learning tool in higher education. The unique functionality of the Tablet Computer allows teachers to create lecture materials for their classes using digital format that can be distributed to students for later review. A tablet enhanced learning environment is an environment where single or multiple tablets are implemented to enhance student learning. Though a universally agreed-upon definition is currently lacking, there is some agreement that a tablet is a computer is a personal computer whose primary input device is a screen or a convertible notebook computer whose screen can be used as an input device.

Key words: Tablet Computer, Education.

Introduction

The Tablet Computer is the next innovative device to hit the educational technology sector. Its design and handwriting functionality, challenges the way faculty and students integrate tablet computers into their teaching and learning process. Tablets are becoming increasingly common tools in schools. There’s a wealth of options available, a range of web apps or apps designed for different operating systems and so many choices for teachers and students to make that it is sometimes useful to know the range of ways that they are making a difference across a range of different subject areas. Though this range can’t be exhaustive or final, given the early stages of widespread adoption, it will provide a starting point for those aiming to use these tools to enhance learning through appropriate and effective use of the technologies available.

Tablet Computers in Education

Pedagogy is related to how teachers teach, and the strategies they use in their work. The impact of tablets on pedagogy has been a central focus of the Tablets for School. The success of tablets depends on the school’s approach to learning, and the extent to which the tablets are integrated into this approach. Schools that link technology use to pedagogy, and set clear goals for use, are more likely to see positive effects.
Learning should never be technology led. Teachers teach, technology assists. This is an important statement, and one that is often forgotten. Focus should be placed on how the technology can be used to aid learning. There are a number of advantages to using this type of technology with students, one of which is the additional engagement that the touch interaction with the content brings. There is a clear educational advantage to be gained from better engagement, including increased stimulation, decreased 'time to learn' and enhanced knowledge retention. Additionally, tablet technology offers a change to the traditional use of ICT such as fixed computers or Laptops, allowing for additional usage scenarios and inclusion in learning activities not previously associated with ICT.

**Tablet Computers in Teaching and Learning**

Mobile learning involves the use of tablet computer technology, either alone or in combination with other information and communication technology (ICT), to enable learning anytime and anywhere. Learning can unfold in a variety of ways: people can use mobile devices to access educational resources, connect with others, and create content, both inside and outside classrooms. Mobile learning also encompasses efforts to support broad educational goals such as effective administration of school systems through the use of tablet computer devices.

Tablet computers provide a unique opportunity to create a truly portable learning experience. Lightweight with a long battery life, they offer possibilities not previously seen with other 'mobile' computing solutions. This lends itself to better use of technology within teaching. For example, quick access to reference material during a lesson, previously difficult to achieve with existing ICT, can bring key advantages and enhance learning. Using tablets in less typical scenarios, such as field trips, workshops or physical education lessons offers opportunities for research, evidence gathering and presentation. Brining devices such as these into the classroom and everyday life for students is in itself a learning experience. Couple this with the resources a tablet computer can deliver, such as text and reference books, audio and video resources, internet research, document preparation and review, and specific eLearning applications and activities and you have a truly versatile learning tool.
The increasing prevalence of digital technology in academia requires that teachers and students become more comfortable using technology to facilitate instruction and learning. This digital transformation has the potential to change the ways that teachers instruct, how students learn and how course material is delivered. The Tablet PC is also quite handy for faculty use outside of the classroom. When preparing lecture material such as figures and diagrams, we were often able to draw and create these items more quickly. The Tablet PC has also been quite useful for note-taking at conferences, department meetings, research meetings, and committee meetings. Finally, the Tablet PC has promising potential for use as a distance education tool. All content can be managed through one tablet device: audio lecture, handwritten material, prepared electronic slides, and live software demonstrations. Several software programs allow such content to be streamed live for use with synchronous distance courses, or archived for asynchronous courses.

Face to Face Instruction

Tablets can effectively enhance instruction in a traditional classroom setting in various ways. Using a tablet, an instructor can construct and deconstruct notes and diagrams starting with a blank screen or using a skeleton outline of a topic. Given this ability, instructors can model how to solve problems and create materials through the course of a lesson. This allows the instructor to be better able to respond to feedback from students during a lesson so that he/she can ‘change courses’ or explain a topic in more detail should it be necessary. Tablets are advantageous when compared to black or whiteboards in that they allow the instructor to face the class. Furthermore, tablets are wireless devices and, providing that the connection to a projector is also wireless, the instructor is able to wander about the environment rather than stay at the front of the class. This affords instructors proximity to their students which, in turn, allows for better classroom management and interaction with students.
Digital ink annotations can be saved directly onto the original document and uploaded onto an webpage or Learning Management System to allow students access. In doing this, students can concentrate more on the instruction in class than on taking notes. Tablets are computers and, as such, allow instructors to incorporate and display a variety of multimedia and presentations. Again, the major advantage that tablets afford is that the instructor can write on these multimedia (including video, simulations and models) and presentations to enhance their effectiveness as learning objects.

**Blended Environments**

In a blended learning environment, students are able to not only access information from instructors but also actively participate in the construction of knowledge. When tablets are used by students in a blended learning environments, new opportunities for collaboration and creative problem solving emerge. Teachers in this environment can switch from the role of instructor and distributor of information to facilitator. Interaction between instructors and students can increase because instructors spend less time teaching.

Students can use time to collaboratively solve problems and socially negotiate what they have learned. A tablet allows students to collaborate in new and meaningful ways. For example, students can access learning materials online and then co-create a concept map to represent their knowledge using software called Puzzle view.

**Distance / Online Education**

One of the primary benefits of using tablets in an online course environment is that students can receive more personalized notes and feedback from their instructors. Instructors can mark digital assignments using a tablet, and the ink annotations can be saved and sent back to the student on the original document. Because instructors can mark directly where they want to on the document, students ultimately get more specific and useful feedback on their assignments.
Another advantage that tablets afford is the ability to hold interactive virtual office hours. Using programs such as illuminate, instructors can conduct synchronous office hours and, in doing so, use their tablet to sketch or otherwise mark-up documents to support their explanations to students. The major use of the Tablet PC in this course was to replace the blackboard with the tablet. The machine was connected to a projector.

The use of the tablet, as an educational tool can have several benefits. These advantages include:

- Being highly portable (easy to use in classroom, fieldtrips).
- Consolidation of learning material into one device (textbooks, notes etc.).
- No compatibility or technological issues since the same type of device is used.
- Quick access to the Internet.
- A convenient alternative to the laptop or desktop.
- Useful tool during group work and brainstorming activities (information stored in a drop box).

Conclusions

This paper has described how the Tablet PC can be used as an effective tool for grading, preparing lectures, and delivering classroom presentations. It provides a simple way to integrate live, handwritten material with slides and figures prepared in advance. Lectures can be easily captured for viewing at a later time. Rather than save the lecture as a static document, our work explored methods for capturing lectures into Flash movie files so that audio and gestures could be recorded. Students reported very positive feedback about the approach. In the future we intend to explore uses of the Tablet PC for distance delivery and collaborative applications where all students in a classroom are working on Tablet PC’s.

References