


OEB News Portal

 Technology Developments
 & Mobile Learning

For Mobile Phone Movies - The Technology is in Your Pocket

Mobile Learning: iPods Feature in Innovative Teaching

Break a Leg! How iPods Help Healthcare Students to Get Perfect X-Ray Images

Giving Voice to People – Even the Voice of Homer Simpson

Portugal: Mobile Phones in Schools

Learn to Make Quick Decisions – With Your Mobile

Mobile Gaming for Dutch Students

Will E-Books Ever Become Mainstream?

Preparing for a Cyber Attack

Globalised E-Learning for the Local Environment

European Digital Library – Cross-Domain Content

How to Raise an i-Kid? Challenges of an E-Mama

Knowledge Work is Learning

E-Learning Perspectives in the Developing Countries

Copy and Paste

e-Inclusion – Workshop on ICT for Children with Learning Disabilities

Join the Podcast Lab

New Ways to Study Abroad: Virtual Mobility

Back to main


Mobile Learning: iPods Feature in Innovative Teaching

■ **How can teachers tell in real-time how well their students follow and understand what they are being taught? The EduMECCA research team, a multinational EU-funded Lifelong Learning-ICT project, has developed a new open, web-based student response system for iPod Touch, iPhone and PC. Originally designed for vocational education of welders and welding engineers in Norway, Slovakia, Hungary, Slovenia and Sweden, the project has been extended – for example into high schools and higher education courses at the Sør-Trøndelag University College in Trondheim, Norway. At ONLINE EDUCA BERLIN, Gabrielle Hansen-Nygaard and John Birger Stav of the College will present examples of the practical use of the student response system. Here, Lars Erik Skjærseth reports on how the students in Trondheim use the methodology in their maths lessons.**



© Lars Erik Skjærseth

■ By Lars Erik Skjærseth, Norwegian Broadcasting Corporation (NRK)

A teacher's dream scenario: all the students are able to answer the quiz questions immediately and give direct feedback on whether the quiz was too difficult or not. Nobody even has to raise their hand to answer.

In Trondheim, Norway – the city where students have started a petition against oldfashioned lectures at the Norwegian University of Science and Technology - innovation is happening. In some classes at the SørTrøndelag University College (HiST), the lectures are interactive and the project manager and teachers are unanimous in their verdict: the response from the students has been fantastic.

■ Meaningful Quizzes

It is a large class of some 48 students. They follow the qualifying course for the engineering courses taught at HiST. As we arrive, the subject is mathematics, and the atmosphere in the classroom is like in any other class. But not for long. The teacher presents a mathematical quiz in the form of a written story. The assignment for the students is to translate this into a mathematical equation and solve it.

"You have ten minutes to work out the question on your own, and then we do a vote," proclaims teacher Jon Eirik Hennissen.

He clicks a few buttons on the PC and writes some alternatives onto the whiteboard. The clock is ticking. The students have to select one alternative and give their answers by pressing buttons on their smart phones – or the iPods they were given on loan at the beginning of the term. The countdown is complete. The results of the quiz show up on the screen. The majority opted for "15", but not everyone. Only one alternative is correct. The teacher can see immediately which sections of the preceding chapter have to be revised.

■ Every Student is Included

"Now I'd like you to work together in groups, then we'll do another vote," says Hennissen, smiling. He enjoys this. He and all the students can see immediately if the assignment was too difficult or too easy. Everybody gets to see how the other students voted by means of a graphical display of the distribution of votes. This gives invaluable feedback on the level of the students, and the degree to which repetition and continued work is needed. The maths mystery is to be solved.

"This is good. I get to reach all the students. Because classes are so large, it's easy to ignore some students and students who are ignored easily drop out. Now I have a good overview of the entire class, and can act accordingly. Every student is given a chance to participate. Normally, only a handful of students are able (or willing) to participate actively in class. This methodology creates more work on the part of the teacher but I get a tenfold return on every effort invested," says Hennissen.

The students are discussing in groups. The clock is ticking. The students cast their votes. This time around, more students voted "15" but not everybody. All votes are anonymous. We don't know who but, rather, how many have answered incorrectly after the group discussion. The students are laughing, discussing the



Teacher Jon Eirik Hennissen is anxiously awaiting the results.
© Lars Erik Skjærseth

Search for



results. The atmosphere is relaxed.

The teacher now chooses to solve the assignment on the whiteboard. And believe it or not, nobody falls asleep.

■ Excited Students

"This works very well. Everybody is able to participate, not just the elite who already know all the answers. It makes classes more exciting. Nobody has to worry about giving a wrong answer, because all the votes are anonymous. Everybody gets to see if the class actually follows the lecture, and the teacher can adjust his classes on the spot accordingly. If half the students get it wrong, it's too difficult," , one of the students, Thomas Koch, says.

He is eagerly discussing with Bjørnar Fugløy and Pål Kenneth Lundereng. They weren't quite sure during the first vote, but the group discussion has put them on the right track. "We get involved. We want to complete the assignment. It's a sort of competition," says Fugløy.

This goes a long way to confirm project manager John Birger Stav's claim that this engages the students and many more students join his chorus: they like this.

■ Scientifically Controlled Experiment

"We have two classes which were given iPods on loan at the beginning of the term, enabling everybody to join in. The technology is used in three different subjects, with up to twenty hours of lecturing a week. Then we have two reference classes, which use conventional teaching methods without mobile devices. This way we can see if the focus groups learn better and faster and if more students complete the course," says Stav.

The vision is that the students should be able to use their own mobile phone interactively in class. A teacher should be able to set quizzes and discuss the response. Both teacher and students alike will have a live gauge of the level of the class. Everything is transparent and anonymous. The challenge for the teachers is to construct good quizzes. Two to three quizzes are usually held during a 90minute lecture.

■ International Breakthrough

The projects are financed by a 1.3 million euro grant from the European Union and from Sør-Trøndelag University College. A prototype of the student response system was tested last year and is used fullscale this year – in many different subjects and types of education.

"The software and our methodology is used in ten European countries, some universities in the US and here at HiST in Trondheim," says Stav. "And the software is free."

The new teaching methods that are being developed here have caused quite a stir abroad. Thirty-seven countries would like to use the new simulation tool for welding education.

■ Links

For more information on the EduMECCA project refer to: <http://prosjekt.hist.no/edumecca>

At OEB, **Gabrielle Hansen-Nygaard** from the Sør-Trøndelag University College in Trondheim will lead a pre-conference workshop on **Mobile Learning for Everybody**. It will take place on Wednesday, Dec 1st, from 09:00 – 13:00. More at www.online-educa.com/pre-conference-events#.

John BirgerStav from the same College will speak on **Experience with Product-Oriented Training and Mobile Learning in Education and Vocational Training** in the OEB session on **Content Creation for Mobile Learning** on Friday, December 3rd, from 11:45 – 13:30.

November 10, 2010

[☐](#) Back