Bringing mobile learning to students in the Japanese tsunami disaster area

In the wake of the Great East Japan Earthquake of 2011, students in Ishinomaki, one of the regions worst affected by the tsunami, have benefited from a learning environment that takes advantage of a mobile learning system supported by wireless networks and tablet devices to prepare for college and high school examinations.

Using iUniv, a social learning service, young people in Ishinomaki learnt and shared knowledge gained from lecture videos created by Shingakukai, a major Japanese educational institution.

Social learning

The project involved 120, 15–18 year-old students in Ishinomaki, Miyagi Prefecture, whose education had been badly affected by the earthquake; in many cases their school and homes had been destroyed. These students needed to prepare for the entrance examinations for high school and college that take place in February and March (April being the start of the academic year in Japan).

They were supplied with 100 tablet devices and access to the internet (students shared the devices). The education content was created by Shingakukai, one of the largest entrance examination preparatory institutions in Japan. A not-for-profit organisation ran the project and Ishinomaki Senshu University provided the setting.

Students were able to continue their studies from their evacuation shelters with the help of a wireless network and mobile devices. In other regions, the service can function as an 'educational backup' system, a countermeasure against future disasters.

Technology behind the project

Tablet device

The tablet device is a Motorola Xoom™ (Wi-Fi) TBi11M (KDDI) with a 10.1 inch TFT LCD display, 32GB of internal memory and 32GB of external memory. Nearly all (93%) of the students who responded to the project questionnaire thought the size of display was good and 84% thought it was easy or at least 'no problem' to operate.

Mobile learning platform

iUniv (pronounced ahy-yoo-nuh-v) is a service and platform for social learning. It uses visual and auditory content provided online by universities and other educational institutions. Students can use the content by themselves, share it with each other and get advice online from lecturers.

Fusen

Use of the Fusen allows students to place digital stickies (notes or comments) on both visual and auditory contents. These stickies can also be shared with other users and linked with Twitter, Facebook and possibly with other social media. This encourages sharing and exchange of knowledge and learning, and also reflective study.

Key partners

Shingakukai is one of the largest educational companies in Japan, with 16,000 students and 800 teachers, mainly in the Nagano prefecture. Shingakukai is responsible for creating the content.

Castalia Co. Ltd produces educational digital content solutions and operates web media for mobile and social learning. Based in Tokyo, they provide the mobile learning platform.

KDDI is a global ICT solutions provider that offers quality reliable mobile network services in 170 countries and operates 42 data centres throughout the world. They provide the wireless tablet devices and network.

"We worked on this project with the idea that the role of a communication company was to deliver the content that connects children to the future"

Takashi Tanaka, President of KDDI Corporation.

Barriers overcome

In Japan private-sector companies are not allowed to be involved in formal education so it took enormous effort for this programme to be authorized by the Ishinomaki Board of Education because the platform was provided by Castalia Co. Ltd, a private sector company.

It eventually succeeded because of the quality of the Castalia platform and the trustworthy internet infrastructures and devices provided by KDDI. It also helped that the programme only focuses on study to pass entrance examinations and the sessions are held after normal school times.

Best practice

The project used mobile learning to enable students in difficult circumstances (with limited mobility and access to technology) to continue with their education.

The combination of a social learning platform with tailored and focused content enabled the students to keep up with their studies and prepare for entrance exams to school and college.

The way the mobile learning was set up and the use of Fusen also meant the students could share their learning with each other and go to the Shingakukai instructors for hands-on advice and answers to questions.

Connectivity

KDDI highly values a "multi-network" approach to connectivity as a way of providing the best way of communicating, including 3G and Wi-Fi.

Business model

Looking forward, by June 2012 Castalia aims to turn the programme into a service package that will cater to the urgent need for an educational environment at times of disasters.

The service will first be extended in Japan so that by April 2013, it will be used in at least 5% of domestic educational institutions.

Pilot timeline

June 2010 – introduction of social learning platform iUniv

November 2011 – project launched to prepare students for examination season

February and March 2012 – examination season

Spring 2012 – end of examination season

By the end of 2012 it will also be launched in countries in Asia, Africa, and Central and South America where it is difficult to apply existing educational systems and where wireless connections serve as the main tool.

Project outcomes

120 students registered to take part in this project. KDDI reports that almost all of these students passed their high school entrance examinations.

The desire of these students to go to high school and university, despite the natural disaster that befell them, remained high. Reasons given for this were that they wanted to get a good job after studying, they wanted to thank all those who had helped them (including their parents) and that their success would encourage others still suffering from the effects of the tsunami.

Findings and conclusions

■ One reason the Ishinomaki project succeeded was that nearly all the students enjoyed using the tablets. This enjoyment did not abate when the subject being studied was difficult to understand. Almost all of them found tablets relatively easy to use (easier than PCs) and were keen both to use them at home (88%) and to go on and use them in high school (82%).

■ Among the reasons students gave for their enjoyment of the tablets were that they could study at their own pace; use earphones to help them concentrate but could also communicate with other students even when they were at home.

■ KDDI's network strategy is based on Wi-Fi and 3G connectivity. Wi-Fi was used for the Ishinomaki project as it allowed around 100 students to watch the video material at the same time and in the same place. When the students take the tablets elsewhere to study, 3G is suitable because 3G is ubiquitous in Japan's residential areas.

■ KDDI highly values a 'multi-network' approach, recognizing that different technologies are suited to different settings.

About GSMA

The GSMA represents nearly 800 mobile operators and has over 6 billion connections worldwide. We are working in mEducation to help bring the operator and education industries together to address market barriers, foster collaboration and speed up the adoption of mobile education services. For further information please contact us at **meducation@gsm.org** or visit **www.gsma.com.**

"Social learning realises an eco-system in which someone's learning experience supports other learning processes which have a high scalability supported by the Web. We will continue to provide this service as a new form of support for mobile devices"

Satoshi Yamawaki, President of Castalia Co. Ltd

Connected Living