TEACHING AND LEARNING REMOTE SENSING WITH NEW TECHNOLOGIES

Raffaella Guida
Surrey Space Center
University of Surrey
Guildford, Surrey
Tel. +(44) (0)1483 682227, fax +(44) (0)1483 689503
E-mail: R.Guida@surrey.ac.uk

Abstract

Education presents everyday new challenges. Today, one of the most interesting, is to find the proper language to speak with, transfer and share knowledge with new generations.

A support in this direction comes from new technologies. Blogs, wikis, podcasts are only some of the latest and most original technologies which pervaded the free time of young people. Indeed, often far from the academic environment as considered not serious or reliable instruments to educate, they captured instead the interest of new generations looking in the web for people to discuss with or enable to move without their i-pod.

Remote sensing is a quite young subject which always kindles interest in all students, naturally concerned with the earth's future and fascinated by the idea of monitoring the conditions of its resources. As a scientific subject, remote sensing often needs mathematics and physics theories as support to its teaching. Moreover, the show of images acquired by different sensors is welcome to develop students' experience.

This paper deals with a new and original experience that is to enhance teaching and learning remote sensing by means of podcasts.

Podcasting refers to the method of timely delivery of content to people, students in this case, who have selected to 'subscribe' to receive the content.

Podcasts files can be a variety of formats but are usually audio-only, audio with images or video recordings. For a remote sensing class, audio-only format may not find the interest and attention of students even if is the simplest to produce.

The paper presents the experience carried on in the remote sensing class at the Surrey Space Center, University of Surrey. Podcasts have been realized with the support of the E-learning team of University of Surrey.

The interest for podcast mainly arose for its portability which allows students to learn at opportune moments such as when travelling on a bus. In fact, a mobile device capable of playing the format of the podcast is the only thing the students need. In this way, long commutes on buses may be exploited at the best for a new learning experience.

Some important topics have been considered in the production of podcasts. Podcasts have been used to supplement lectures or to introduce new topics but never as a routine recording of a lecture which is useless or boring. For example, an audio podcast with images has been realized to supplement the lectures on Synthetic Aperture Radars. Being the frontal hours not enough for facing the last novelties brought by new technologies and missions to this topic, these themes have been treated separately in the podcasts.

Moreover, the optimum duration of podcasts and frequency in suggesting alternative material on podcasts has been open to discussion with students together with the idea of asking the students themselves to produce podcasts for an assignment, as peer assessment or as a reflection on their learning.

To the best of my knowledge, the experience carried on at Univesity of Surrey, i.e. the production of remote sensing podcasts is without precedent. Moreover, podcasts' quality to give new life to subject matter suggests the adoption of new technologies everywhere is possible for enhancing learning experience and its portability particularly encourages its diffusion in countries where everyday students have to face long commutes.