Designing Mobile Guides for Student Field Trips

Hannah Lewi, Wally Smith
The University of Melbourne (Australia)
hlewi@unimelb.edu.au

Abstract

Field trips to sites of interest are an important part of higher education in many disciplines. Under increasing cost pressures faced by universities, digital mobile technologies offer a way to maintain field activities and enhance their value by, for example, providing rich visual and audio learning materials *in situ*, supporting social interaction between learners, collecting student data and allowing direct feedback and assessment in the field. We report two studies of designing and evaluating mobile tools for student fieldwork in the disciplines of the design and history of landscapes and the built environment.

In the first study, an iPhone app was designed and delivered to 300 undergraduate students in the form of a guided tour of historic buildings in the centre of Melbourne, Australia. Audio and visual information directed their interpretation and a quiz was used to test understanding. In addition a related digital sketching task on iPad was given to a small group of students. A questionnaire was used to evaluate the kinds of social interaction students experienced, the varied audio and visual content presented, and the perceived value of the exercise in regard to the broader learning aims of the history of architecture subject. In the second study, an iPad app provided a guided tour of an urban landscape, the Royal Botanic Gardens, also in Melbourne. The digital guide presented historic images, maps and videos along with audio narration created by the subject instructor. It also presented assessable tasks for groups of postgraduate students to identify, experience and interpret physical elements in the gardens and relate them to the multi-media materials. The learning objectives included promoting an appreciation of the changes in the landscape over time, and the design influences of different creators of the Gardens. Students were observed directly in groups completing the activities and also given a later questionnaire and focus group interview.

While educators generally see great benefits in open-ended learning activities made possible by the rich content that can be delivered on mobile devices, we found that in our experience over two studies, this can produce uncertainty for students in the context of fieldwork where a teacher is not immediately on-hand to clarify and re-focus learning. We concluded that e-learning materials and activities for fieldwork should generally avoid conflicts with the actual experience of the site and context. An effective mobile tool should be designed therefore not as a standalone resource, but as an ongoing interaction between the tool and the site. We call this 'directed looking'. Related to this, mobile resources should design for the socialisation of learning, and avoid the pitfalls of isolating students from each other. The implications of these findings for supporting fieldwork with mobile technologies are discussed in this paper.