Pedagogic Research and Teaching Innovation (PRTI) Award

Final Report 2017

Name of key contact (project leader): Dr Mark Holton

Department: Geography and Academic Support, Technology and Innovation (ASTI)

Names of other staff involved: Dr Nichola Harmer and Dr Rebecca Vickerstaff

Title of project: Developing and evaluating 'PlymTour' a new mobile online educational resource for students on Plymouth's people and places

Type of project: Mobile app development and pilot research using participant observation

Keywords: Mobile technology; Place-based learning; Self-guided tour; Geography

Aims of project: The aim of the project was to develop and evaluate a new mobile digital resource for place-based learning in Geography and wider disciplines. The objectives were:
• To work with ASTI to develop 'PlymTour', a digital walking tour of central Plymouth accessed through the Mobile with Plymouth University (MwPU) app and hosting multi-media resources on a dedicated Plymouth University Digital Learning Environment (DLE) page.
• To research how Geography students engage with PlymTour in order to evaluate its use as a pedagogic tool for deepening knowledge of the socio-economic geographies of Plymouth and supporting learning in existing modules.
• To create wider social benefit through connecting students with their term-time location and creating a resource with the potential for facilitating learning about Plymouth's geographies for wider university and public users.

Background/context to project: Recent pedagogic research highlights a need to incorporate mobile learning technologies (MLT) into teaching practice to assist and enhance the learning experience. MLT encourage active, place-based learning by encouraging students to interface with their environment, potentially increasing their agency within the learning process (Brown et al., 2015; Hoff, 2015; Li, 2007). This project responds to this call by developing and evaluating 'PlymTour' – a digital walking tour of central Plymouth for use on mobile devices, which aids disciplinary-based learning in situ and outdoors and encourages students to explore and learn about their term-time location. This develops previous knowledge of MLT by exploring how engagement can extend place-based learning beyond simply learning about place (Israel, 2012).

Methods used: Mobile app design and pilot using participant observation
<u>App design</u>: PlymTour combines two learning technologies to create a sustainable and user-friendly platform for students to engage with. The initial interaction for the students was created using the MwPU app (https://www.plymouth.ac.uk/your-university/about-us/university-structure/service-areas/it-services/mobile-with-plymouth-university) which is freely available to all students and staff across multiple platforms and devices. Users are provided with an initial introduction and each physical location on the tour had its own placeholder in the app providing geographical information and a map for users to view. Users are automatically linked the main bulk of the content which is stored within the DLE in Moodle. Users access PlymTour by single sign-on meaning students only need log in once during the tour. By using

a subject view site, PlymTour has sustainability as content is editable and structured in a way to allow growth in a familiar and accessible way. Images, videos and text content were added along with interactive formative quizzes which allowed tracking of engagement and a fun way for users to test their own knowledge on what they had learnt from each location. All support materials are hosted on the DLE, alongside full instructions and health and safety on how to use both the app and the DLE site.

Participant observation: Once the app was designed, and ethical clearance was granted, a pilot project was conducted with students recruited from Geography to test the usability of the app and how participants engaged with the app's interface, the locations (and routes between them) and the content. Participants were recruited through a Stage One module with a field-based assessment that was closely aligned with the route of PlymTour. Information sheets were distributed to students during the first practical session for the module and groups were given the opportunity to make contact should they wish to take part in the research. Four groups took part (17 students in total). Groups was asked to meet at the researchers' offices for a briefing on how to operate the app; to go through the structure and intentions of the research and complete consent forms; and for any questions the participants might have. Encounters lasted approximately 2.5-3 hours and groups were accompanied as they walked around the city, with researchers observing their use of the app, their interactions with one another and with the environment. These observations were voice recorded and then later transcribed for analysis using NVivo.

Results: From this research, we confirmed the importance of incorporating MLT into existing practice in order to enhance the learning experience outside the classroom. Specifically, we observed this through the participants' social and learning experiences of the content 'in place'. From this we discovered that these learning experiences are not fixed, but are instead reconfigured through relational links between students, technologies and environments. We infer from this that MLT are capable of encouraging students to be more critical of field locations by stimulating engagement beyond a surface appraisal of the environment. Through these findings we recommend further explorations of the application of mobile learning, particularly as learning is still persistently organised around the classroom, meaning mobile learning may be constrained if our existing pedagogic frameworks are not genuinely open to grasping their value (Goggin, 2009).

Associated publications: (Available upon request)
Holton, M., and Harmer, M. (In Review). "You don't want to peer over people's shoulders, it feels too rude!": the moral geographies of researching using participants' personal digital technologies. Area.
Holton, M., Harmer, N., and Vickerstaff, R. (In Preparation). Mobile assemblages: learning about places by being 'in' place. Transactions of the Institute of British Geographers.

We also intend to provide three (non)academic resources: (1) a 6000-word entry to the SAGE Research Methods online resource centre on working with mobile apps as research tools; (2) a 1000-word blog entry to the What Works for Teaching and Learning in HE GEES? online resource, supported by the RGS-IBG's Higher Education Research Group (HERG); and (3) a case study for using multiple Learning Technologies for evolving content for the ASTI network.

Dissemination:
Holton, M., Harmer, N., & Vickerstaff, R. Developing and evaluating PlymTour, a new mobile online educational resource for students on Plymouth's people and places VC Teaching and Learning Conference (Plymouth: June, 2017).
Holton, M., Harmer, N., & Vickerstaff, R. Mobile pedagogies: learning about places by being 'in' places Royal Geographical Society – IBG Annual Conference (London: Sept, 2017).

PlymTour has gathered interest from within Plymouth University and more widely through the RGS-IBG. First, PlymTour was launched to our incoming Stage One Geography students in September 2017. In monitoring the progress of the app, we will make this available to other students in SoGEES and more broadly to other Schools in 2018. Second, the RGS-IBG has expressed interest in supporting PlymTour more widely as an orientation / special interest tool for RGS-IBG members in the South West region. While this is still speculative, we hope that any extra funding that may arise from this may assist with the sustainability of PlymTour, and make it a potentially useful Plymouth University Open Day resource for prospective students and parents.