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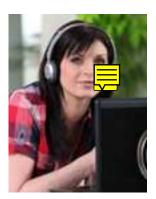www.northumbria.ac.uk/nrl

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Diversifying assessment across the 'Two Cultures': student-produced podcasts in Geography

Abstract

Since 2008, following growing collective interest in learning technologies and pedagogy, Geography and History departments at Northumbria and Newcastle Universities have successfully incorporated student-generated podcasting into a mixture of science, humanities and social science modules across all undergraduate levels. This paper presents a number of innovative examples using this approach, with the aim of promoting student creativity and analytical skills in ways different from traditional report- or essay-based assessments. It goes on to consider some of the advantages and challenges of this alternative assessment mode, from both student and tutor perspectives, across the science-humanities divide.

Introduction

Geography is unusual as a discipline in that it occupies the science-humanities divide, and in many senses the discipline straddles the "Two Cultures" as discussed by C.P. Snow in 1959. This diversity provides strengths but also significant challenges to teaching and learning as students sample and develop specialisms within its broad academic territory. Teaching and learning styles are broadly different between science-based and humanities disciplines (Willcoxson and Prosser, 1996), and assessment types tend to differ in method, presentation format and modes of analysis. Many humanities students are argued to have a greater ability to use personal judgement and to evaluate complex issues compared to their peers from science-based courses, who tend to focus on learning new measurement methods, understanding accuracy and precision, and interpreting data within their sub-disciplines. On the other hand, science students are said to develop more domain-specific knowledge, better motivation and self-regulation, at least in high achievers (Vanderstoep et al., 1996).

One solution to bridging the differing assessment styles in science and humanities is to offer a range of assessment types to encourage broader learning skills, which increase engagement and motivation in students. The recent emergence of user-friendly tools such as Audacity software for digitally recording and editing sound has made student-produced podcasting an accessible learning tool, combining efficient teaching of oral presentation skills, and its broader benefits to undergraduate student learning are only beginning to be explored (e.g. Ribchester et al., 2008). The term 'podcast' derives literally from a combination of Apple's iPod and broadcasting, but its accepted meaning is a radio show or any audio-based object such as narrative, lecture, individual or group presentation that may be made available through the World Wide Web (Morales and Moses, 2006). A quantitative comparison of student assessment preferences on the introduction of a trial podcasting assessment is published elsewhere (Kemp et al., 2012). Jarvis and Dickie (2010) also provide a useful review of podcasting in support of experiential, field-based learning. In this paper, we report student and tutor responses to a range of podcasting assessments (Table 1) and consider some of the advantages and challenges of this innovative assessment type in science, social science, and humanities-based Geography and History modules.

Methods

The four undergraduate modules discussed in this paper (second year Fluvial Geomorphology, third year Urban Geography, first year Scottish Fieldwork and second year Environmental History) used Audacity 1.2.6 for Windows and PC for digitally recording and editing sound. For the fluvial, urban and environmental history modules a small, external digital microphone was installed for voice recordings and a selection of digital music tracks was made available for musical interludes and introductions. Instruction was provided in 20 minute sessions to small groups using the software and microphone, and students were supervised through some of the recording and editing stages. Students received guidance on drafting the script and storyboard (pre-production), technical requirements, recording and editing (production), and creating the transcript, credits and availability (post-production). Podcasts were produced collectively and uploaded onto the respective module e-learning platform 'Blackboard'. The podcast recording was assessed using an adapted list of marking criteria (available in Kemp *et al.*, 2009). For the Scottish fieldwork module, recordings were made in the field and edited indoors on laptops prior to a presentation assessment. During module evaluation, undertaken by questionnaire, students were asked to compare the podcast assessment with a traditional essay or report, and module tutors also compiled their own and students' responses from e-mail and oral discussion, or from reflective diaries.

Case studies in student-produced podcasting

Scientific interview podcasts in Fluvial Geomorphology

In this second year, 20 credit module involving 50-60 students, the podcasting exercise was based on a geomorphological field study in which groups assessed channel stability and dynamics on a gravel-bed river floodplain by measuring channel sections, planform morphology and hydraulic parameters that they later plotted in practical sessions. Students were asked to produce a 10-minute radio show that

Table 1: Details of modules and podcasting exercises.

	FLUVIAL GEOGRAPHY	URBAN GEOGRAPHY	CULTURAL GEOGRAPHY	HISTORICAL GEOGRAPHY
Module name	Drainage basins: theory and practice	Urban societies: power, processes, and planning	Geography fieldwork: Scotland	Environmental history of north-west Europe
Level	2nd year	3rd year	1st year	2nd year
Student numbers	50-60	20-30	58-103	5
Age group	19-23	19-23	18-23	19-21
Assessment type	Radio show, non-optional	Radio show, optional	Oral presentation of edited podcast, non-optional	Radio talk show or radio interview, non-optional
Podcast length	10 minutes	10 minutes	10 minutes	10 minutes
Podcast assessment breakdown	Group-produced podcast (55%), written transcript (10%), supporting figures from fieldwork (35%)	Group-produced podcast (60%), written transcript with supporting references and data tables (40%)	Group-produced live podcast presentation (100%), formative assessment on live broadcast to staff and students	Group-produced podcast (100%), written transcript (submit for pass), formative assessment by seminar.

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communicated their important results in simple language and explored their broader significance within a social and environmental context. The podcast format aimed to improve students' interpretation of the results and their significance, and presentation skills to peers, tutors and an educated and interested lay audience.

The module evaluation revealed that most students enjoyed and were motivated by the technology and novel assessment method, and considered that they had improved their group working skills. More creative groups introduced theatrical devices such as sound effects and interviews with other scientists, while less innovative students produced detailed accounts of the methods. Students commented positively about the novelty of the format, and script construction, *"working as a radio station"*, and *"using different sound effects"*, *"listening to [our] own voices"* and, *"coming up with a format and jokes to make it interesting"*. *"It was good – fun and interesting to do something different."*, *"listening to other students' podcasts"*, or *"the fact that we got to communicate our results."* Others considered that *"podcasts were art not science!"*, *"have no merit or benefit over conventional essays/reports"*, or were *"a bit pointless, didn't learn much, better to write an essay"*. Tutors compared the format favourably to presentations in that they allowed a second or third hearing, the ability to stop and start, reduced students' performance nervousness, and provided a more intimate and engaging assessment experience than written reports.

'Future planning' podcasts in Applied Urban Geography

Final year students on this 10 credit module with a cohort size of 20-30 were offered an optional assessment in which they devised a podcast with accompanying script and academic references that explored a pertinent theme in the connected fields of urban transport, infrastructure and social planning. Podcasts were based either on individual research essays or on group work based on a 'future planning' or 'future search' approach. These were developed in module workshop sessions based on a phased system starting with an 'ideal scenario', through an assessment of feasibility and priorities for transformation, towards an action planning phase;
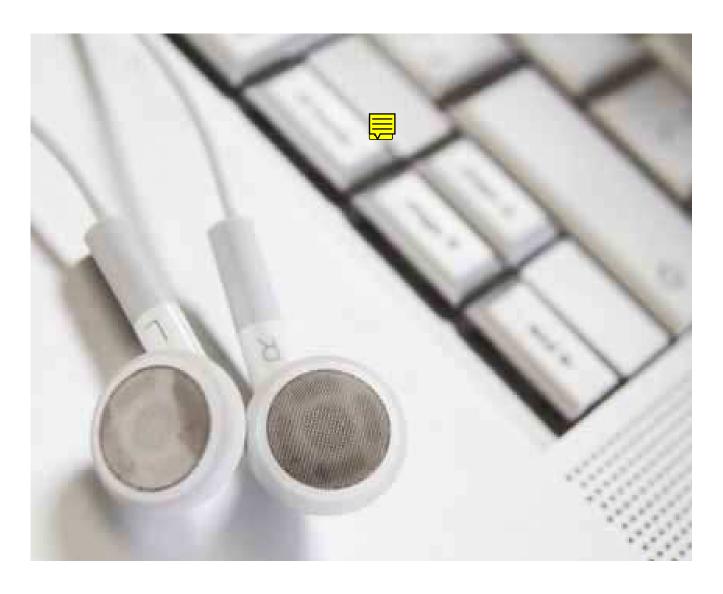
this system is used in participative social analysis and planning (Healey, 2006). The assessment was supported by discussion of relevant themes and dedicated exemplars during lectures, and aimed to familiarise students with podcast communication, enhance students' employability by introducing them to a mode of communication now commonly used by planning authorities, consultancies and the media, and stimulate their curiosity in applied urban geography.

Around a quarter of the students opted for the podcast assessment; most preferred the traditional essay or were concerned about the logistics of group work. Participating students positively highlighted their experience of negotiating a topic with the module tutor, and appreciated the applied nature of the assessment and its applicability to the planning profession. Students found completion of the podcast to be *"the best feature of the module"*, and *"appreciated praise"* from an independent marker. Joint BSc Geography and Sport students, who are not always fully in tune with human geography theory and methodology, appreciated the applied nature of content and technology-based mode of communicating it. They were also able to relate this approach to the event management and community development aspects of their sport curricula. Most participating students drew on theoretical and applied concepts learnt from the podcast to tackle one exam essay concerning the aspiration to move from 'communicative to collaborative planning'. Module grades for participating students exceeded the three year average.

Live podcast presentations in Cultural Geography fieldwork

First year BA and BSc Geography and BSc Geography and Sport Studies students used podcasting during residential fieldwork at Pitlochry in the Scottish highlands as part of this 10 credit module, with a cohort size of 50-100. Students were introduced to themes referring to 'sense of place' from the academic literature. These themes included definition and representation of place, cultural identity and local/global relationships. Gilbert's (2006) concept of '8way thinking', a multidimensional snapshot of place, was also used to structure the podcasts. The podcasts

comprised of recorded interviews with members of the public about their sense of place as well as the students' own views on place. The podcasts were presented and received formative feedback from peers and summative feedback from staff afterwards.

Student feedback on the podcasting exercise in 2009 and 2011 was compared. Sixty-six post fieldwork questionnaires were analysed in 2009 as well as 13 reflective diaries, which were written on a voluntary basis by the students. In 2011, 33 post fieldwork questionnaires and 23 diaries were analysed. In 2009, 24% of the students mentioned podcasting as a 'good' fieldwork experience with 18% mentioning it as a 'bad' fieldwork experience. Of the latter, four students found the editing to be stressful, mentioning problems associated with use of laptops. In the 2009 diaries, nine students discussed podcasting as a skill. One student commented *"Enjoyed walking round Pitlochry and interviewing people. I also enjoyed putting the podcast together."* In 2011, 56% of students enjoyed the podcasting day and 17% were equivocal in their views. In the diaries, 17 students talked about the

skills they acquired, including the following comment: *"Interviewing people and actually noting down sights and sounds associated with the town, using and creating a podcast was effective and I found it to be a successful exercise."* Two students explained how they learnt from engaging with technology, one commented *"Using Audacity was a refreshing change to a PowerPoint presentation or something similar"* and another noted, *"Good to work with technology"*.

The podcasting exercise has run for four years with improvements taking place each year. Although there were technical problems in the first year, 2009, these have been resolved due to increased staff expertise; the marking guidelines have also been refined. Participatory appraisal techniques were introduced in 2011 to gain additional feedback on student learning from the podcasting exercise. Students enjoyed the exercise as a means of allowing self expression and in facilitating improvement of technical skills. The tutor has found that students have become more comfortable with podcasting as it has become an established part of the field trip.

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Radio talk-show podcasts in Environmental History
Student-produced podcasts in this second year, 10 credit Environmental History module were offered to five students undertaking History programmes at the University of Newcastle. Students were asked to write a 1000 word essay and convert it into a 10 minute radio talk-show podcast. The assessment aimed to develop presentation and web-based skills, and to train future historians in new internet-related communication that includes podcasts, blogging and increasingly interactive 'mash-ups' using maps, video, images and sound.

Feedback from module evaluation indicated that the majority of students found the exercise harder than a conventional essay because of the two-staged process of writing a script and the technical challenge of turning this into a recording. Students found the recording technically challenging but they also found that it improved their computer skills. One of the students commented that: *"the best thing was playing around with it and making mistakes"*. Another wrote that *"real effort is required to make a seemingly interesting written piece transfer well to a spoken recording, as the style in which a person writes does not often translate into speech successfully"*. Academic engagement was noticeably better than in traditional assessments, with all assessed podcasts based on high quality literature research and concise historical interpretation. The informality of the recording also reduced student shyness, and organisation, interaction and participation between group members were substantially better than in preceding seminars. In this context one student commented it stimulated: *"...the group to really communicate"*.

Discussion and outlook
The case studies discussed here present a range of podcast-based assessments catering to a variety of educational and vocational aims in science, social science and humanities-based Geography modules. Perhaps the surprising result of the study is the similarity of student responses to podcasting across all disciplines. The perceived difficulties of writing the podcast script were not restricted to science-based students, but were also felt by those undertaking traditional History programmes. Students in all modules felt the challenges of learning new technology, and many displayed resistance to the prospect of an unfamiliar mode of assessment. However, evidence from sports studies students exploring urban geography and from BSc students experiencing human geography suggests that podcasting can promote engagement across the discipline divide. This may be partly due to the informality of the language, and to the use of internet-based technologies with almost universal appeal to the present generation of students.

As a learning activity, podcasting extended students' learning experiences and enabled groups to create stimulating and creative learning environments. Across the different modules, most students felt that the exercise improved their communication and group working skills. It allowed group members to contribute with their particular practical and intellectual strengths, for example drafting questions, a feel for music, technical IT skills or organisational skills. The student experience supports Laurillard's (1993) view that discussion, interaction, adaptation and reflection are crucial elements in the effective use of technology in education. The process of producing a podcast provided students with opportunities to discuss and to interact, to adapt their understandings and reflect upon them. An important factor in this process is the shared experience of learning. In this respect, student-produced podcasting takes full advantage of the open, democratic and collaborative power of Web technology and the ways in which this can produce an active engagement in the learning process.

To tutors, student-produced podcasting provided a less formal environment that promoted more creative interaction with research topics. It proved to be a flexible means of assessment, particularly as an alternative to oral presentation. Marking was a more intimate and positive experience, despite the physical separation between students and staff during the final recording sessions. We shall look with interest to how future student cohorts who have had exposure to group podcasting in geography take to using it at higher levels of study. One aspiration for the future is to explore the potential for student exchange programmes like ERASMUS, as Lee (2009) has argued that blogs and podcasts open new ways for international and global communication, and the development of intercultural awareness.

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