

ENGAGING TUTORS AND LEARNERS THROUGH AUDIO SUPPORTED PEDAGOGY

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Abstract The JISC-funded Audio Supported Enhanced Learning (ASEL) project used Action Research methodology to examine the use of audio in four key areas of Higher Education (HE) educational practice, namely: self-reflection, formative and summative feedback, assessment, and collaborative learning. A community of practitioners from across two Higher Education Institutions and six subject disciplines were involved in this study (Law, Accountancy, Computing, Health, Optometry and Business). The intention of this paper is to present examples of how learners engaged with audio from across Law, Computing and Business subjects, and how strategies were developed by tutors and learners for the effective and innovative use of audio. Examples will include the use of freely available web 2.0 technologies by learners and used to support their community for learning. The use of recording devices such as mp3 recorders, and the development and use of purposely built audio software to facilitate pedagogy. Findings indicate that the creative use of audio in each of these subject areas facilitated a more personalised learning experience leading to increased student motivation, and engagement. Furthermore, results show how learners used the technologies for self, and peer assessment and assessment feedback. In each of the subject areas strategies were developed by tutors and supported in an Online Community of Practice which has been shown to help encourage a redesign of the curriculum in terms of pedagogy and assessment. This paper will add to the debate on Community, the use of Web 2.0 technologies, Audio in Curriculum Redesign, and the Learner Experience.

Introduction

Audio is in existence since 1877 when Thomas Edison first invented the phonograph which was a device that recorded and reproduced sound. This made it possible to record the human voice.

Since then we have come a long way in terms of recording and playback devices. There is now access to a range of technologies many of which can be Accessed: through the web to support teaching, learning and assessment (Doolan, 2010; Stewart, 2009). Where, audio files can be uploaded to technologies on the web which are commonly known as Web 2.0 (O' Reilly, 2005) such as wikis and blogs. Audio files can also be downloaded to "pocket sized" devices such as mp3 recorders and players and mobile phones which are popular amongst learners. These are also easy to use in pedagogical practices despite the sound quality issues of some mobile phones. Recordings using mp3 recorders are of a high sound quality (Doolan, 2008, Stewart & Doolan, 2008; Stewart, 2009).

The use of audio has potential to enhance collaborations, knowledge development, and transfer and can be used in social constructivist settings (Vygotsky, 1978). This approach has seen to shift the emphasis from the tutor to the learner with the tutor becoming more of a facilitator of learning (Doolan, 2007; 2010). By placing learning firmly in the hands of the learner this has been shown to result in learner centric practice (O'Sullivan & Samarawickrema, 2008). This can

take place within a social learning environment such as a community of learning (McConnell, 2006; Paloff, & Pratt, K. 1999; Tu, C.H., & Corry, M. 2002). What is common amongst these studies is the importance of providing opportunities whilst using technology to support learners in sharing, communication, knowledge exchange. Furthermore, this development is socially constructed and collaborative promoted by using collaborative and social learning approaches in learning, teaching and assessment. These approaches have been shown to support more personalized learning (Doolan, 2008; DFES, 2005) and autonomy (DFES, 2005) which has been shown to empower and motivate learners enabling them to set up socially agreed spaces (Oblinger, 2006) and negotiate and agree opportunities for their learning in terms : where, how and when they learn (Doolan, 2006; 2007)

What is particularly beneficial in using audio for educational purposes is with guidance and support its ease of use in creating content, simply by using the voice. This has led to its increased use by lecturers predominately as podcasts (Rotherham, 2009) and popular amongst learners (www.impala.ac.uk).

Strategies adopted by Tutors

Collaborative learning, assessment and the practice of social constructivism involving learner-learner, tutor-learner and learner-tutor was practiced. Where, learners and tutors worked together on set learning activities to produce a common outcome and artifact. These were explored in the three subject disciplines, of Law, Computing and Business Accountancy. Although the learning activities set by each tutor in each of these subject areas were different, they all involved learner and tutor created audio content. This was agreed upon and supported by the ASEL project. At times, using a student mentor in addition, to sharing with experienced staff and learning from less experienced staff through engagement face to face and in an online community of practice (Wenger, 1998).

Law n = 30

Audio was used in a number of ways in the law school. Initially recordings were developed using digital voice recorders where mp3 file formats were easily uploaded to the personal computer for inclusion on institutional resources. In order to achieve this digital voice recorder was directly plugged into the USB port or connector. These recordings were produced in class by learners following their study of an audio recording provided by the tutor to prepare for the in-class learning activities. As staff became more proficient and confident they were keen to explore new ways of supporting learners in the practice of collaborative learning and shifting more emphasis onto the learner to become more of a facilitator of learning. This took time, however, support was at hand as previously outlined.

The Pseudo-interactive real time audio feedback tool (PIRAF) was designed and developed collectively to expand on the initial use of audio. In-house built software was developed to actively engage students in aspects of a post-graduate Legal Practice Course. This interactive podcasting software was designed to enable audio recordings to provide a two-way dialogue, providing an opportunity for learners to actively engage with the audio content by responding using voice or in a written format. This software was developed after tutors found the use of digital voice recorders limited for collaborative learning in the curriculum (www.aselactive.com). Whilst designing the software there was a need to ensure that the technology matched the requirements of tutors and students alike. In addition, it would suit the requirements of those studying a professional qualification and in professional practice. The course was undertaken by 30 solicitors practicing in the community. To this end, it was vital the software designed, developed and implemented and easily promoted a two-way dialogic process. Which

accommodated this type of learner and that this dialogic process could take place between tutor-learner, learner-learner and learner-tutor inside and outside the classroom boundary.

It was also intended to help learners develop knowledge of legal content, and be able to debate these with their peers and tutors. Furthermore, to develop critical analysis, critical thinking skills in real-time whilst at the same time engaging with PIRAF. It was also important that learners could identify and solve legal issues and breaches in the law. It was vital given the nature of the course that the audio output was of a high quality and was capable of receiving audio and paper file formats.

The software used with learners in law encouraged learners to engage and participate in an audio role-play which took place in real time in situ. This simulation took the form of a scenario which required learners to actively participate and engage with “realistic” law based scenario in order to identify breaches in the law. This worked as follows: PIRAF software can detect when the learner is and is not speaking. Interaction takes place between the audio software and the learner whereby the learners’ responses to the audio content in the scenario are recorded. Following this, the scenario resumes with the next audio content recording of the role play. This can take the form of a question based on the section of the scenario recorded previously by the tutor. This not only promotes a two-way dialogue using an audio medium, desktop application files can also be included in addition to other file formats when written work is required.

Finally, an audio recording was recorded by a number of staff from the law school although resource intensive. This was necessary to comply with the stipulations on the delivery of legal courses. With this in mind, the audio was recorded in a studio using institutional resources. This required booking, planning and managing and had to be tightly scheduled to accommodate those involved in the recording. This produced a professional and polished artifact for learners which can be reused.

This comprised a series of revision exercises which was delivered in the style of a Radio 4 programme. The tutor responsible for this coincidentally was formerly worked in the media and extremely passionate to explore and learn more on behalf of the students. Tutors involved in this recording used a script to act out a number of ethical and legal breaches which were punctuated with music, humour and strap-lines. The intention of this audio recording was to provide a “realistic” setting for learners and again to simulate critical thinking and analysis of ethical and legal breaches common to the practicing solicitor.

Learners were required to listen to the audio recording before each tutorial to familiarise themselves with the tutorial content. Thus were expected to actively participate and engage in their learning whilst outside and inside the classroom. In the tutorial, learners were divided into groups of three or four group members and were required to discuss the scenarios they had listened to in preparation for the in class tutorial. Learners were expected to identify breaches in ethics and law, use critical thinking and analytical skills whilst working collaboratively and to problem solve way to move forward. Learners captured this by recording the interactions using a digital voice recorder and produced audio recordings which were uploaded by the tutor to the institutional resources. In this way, it was intended that the tutor could ascertain the level of learner engagement and understanding of the topics under discussion. In addition, this helped tutors to gain an insight into the preparation involved prior to the learning experience. It was also intended that the audio recordings would be used to support the final summative exam.

Computing n= 54

In Computing the tutor used a digital voice recorder to record learning activities and uploaded these to a wiki. This was intended to provide flexibility in learning in terms of anytime and anyplace. In addition this was aligned with the tutors' philosophy that of the practice of social constructivism (Vygotsky, 1998) whilst exploring the use of technologies (Doolan, 2008). And to provide opportunities for students already familiar with technologies such as web 2.0 and open-source software to build and share these skills. Open source can be found on the internet www.sourceforge.net. Such technologies present opportunities as well as challenges in higher education for the recording and delivery of audio. These can be used easily with some guidance and in conjunction with an internal or external microphone to record voice of the learner and tutor alike. Such audio recordings can be converted to MP3 format using the Lame add-on www.sourceforge.net or alternatively using a digital voice recorder compatible with mp3 format.

Audio was developed by the tutor and uploaded onto a wiki to provide support for learners whilst completing their assessment. The audio provided the specification for the collaborative assessment this was in five parts aligned with the five tasks required to complete the assessment. Therefore, the outcome of the five learning activities as described by the tutor in audio recordings was culminated by learners into a final assessed report. The activities set were designed to ensure that active student engagement would take place which required the chosen learning activities to be shared equally within and across a learner group whilst using a collaborative learning approach (Doolan, 2008; 2010)

Business - Accounting n= 30

In the first instance the tutor was teaching a class of 30 Post graduate students and used recordings for learners to actively engage in collaborative learning through group presentations. This was intended to motivate and engage students in their learning by deviating away from the old medium that of power point in class presentations. The learning activity is shown in figure 1:

Working within your groups you are required to read the following:

Tinker, A. M., Merino, B. D. and Neimark, M. D., 1982, "The normative origins of positive theories: ideology and accounting thought" **Accounting, Organisations and Society**, Vol 7, No 2, pp. 167-200

You will be provided with a recording device and required to produce a recording of between 6 – 8 mins duration discussing the above article with specific reference to

- a) Theoretical masks,
- b) Theory as an illusion
- c) The role of value judgments
- d) The different value theories discussed and their role in accounting thinking?
- e) The possible impact of giving due weight to the authors perspective on the social context of accounting. Can you identify others with a similar view to include in this discussion?

Figure 1: Learning activity in Business

Business - Accounting n= 30

Furthermore, the tutor intended to use audio to provide learners with feedback on assessment with 280 learners in Business Accounting on a first year course. The intention was to provide students with the research and writing skills necessary to produce sound work across other modules in the area of accounting and finance.

Using the tutor voice as captured in the reflective blog problems were encountered as follows:

- i. *Choosing the appropriate recording device,*
- ii. *Finding a fast and efficient way of sending the feedback to students*
- iii. *Accepting and dealing with the limitations of our own VLE” [sic]*

Figure 2 shows the assessed collaborative work that the tutor set for the 280 learners on this course:

The assignment was to write an essay in pairs of two in which the marking scheme was designed to highlight the learning outcomes students were required to be meet and demonstrate the ability to do research. In addition to develop skills using the Harvard referencing system.

Figure 2: Assessed student essay in Business

Learner and Tutor feedback

Feedback was obtained from learners on their perception of the experience of using audio to support collaborative working and learning via telephone interviews and carried out by a research assistant. Tutor feedback was obtained using a shared reflective blog which was Accessed: by all project members. In addition to colleagues who requested access. In this way, a community of practice was established (Wenger, 1998) were tutors shared and learnt from practice.

This was found by tutors to be beneficial as this provided a means of cross fertilization whilst reading the reflections on practice of colleagues. Whilst at the same time providing feedback in practice to help move the practice of using audio in collaborative learning and assessment forward.

In law a learner reflects:

“Just the interaction. I think you are always learning - someone else has a different point of view or opinion and everyone has different ways of working...and different ways of putting their answers. I think it is really constructive to learn from other people.” [sic]

Learners like the use of audio for collaborative learning and the support it offers for building confidence whilst working and relating to others. Being able to communicate amongst diversity in the population and in different environments is a vital ingredient in the practice of law. The learner continues:

“I think it was something different that we hadn’t done before. Some people weren’t particularly keen on it and I think it gets you out of your comfort zone, and if you’re not keen on talking - in a way that’s good – you need to do that...it just builds your confidence – as a confidence building tool it’s really good.” [sic]

Although not all students within law perceived the use of audio as positive. The majority cited that the use of audio supported the collaborative learning activities providing both challenge and a valuable learning experience, whilst at the same time developing team building skills. A learner reflects:

“Because you are working in a group...we had to allocate who was going to talk at which particular part, so there was sort of leadership involved like you do this and you do that – and sort of sharing it out evenly. You didn’t want somebody to do all the talking and someone not to do anything. And you want to make sure everybody has an opportunity and bring everybody in. It was good team building in a way.” [sic]

In addition learners demonstrated that they enjoyed the creative aspects of the learning activities set in law and appreciated the flexibility that having access to the audio recordings provided.

There were similar findings from learners in Computing. Learners also engaged actively with learning activities whilst working collaboratively and using a wiki (Doolan, 2010). Learners and tutors embedded and uploaded audio files onto a wiki. In addition, learners downloaded these to their mobile devices to listen again at their own leisure. In addition the audio files were downloaded by learners onto their laptops and personal computers.

The tutor reflects:

“...attaching the audio files within a wiki appears to have captured my students’ attention.” [sic]

The tutor went on to elaborate that this...

“...appears to encourage greater motivation, communication and engagement with learning, indeed a group dynamic and a group identity.” [sic]

In preparing audio files for learners, the lecturer observed that...

“...Students like the fact that the audio/wiki environment is interchangeable and dynamic. It is fascinating to observe how these guys [the students] create their own adaptive learning environment suitable to their own needs.” [sic]

The combination of the collaborative wiki and the creativity involved in producing a group audio file was a motivational driver for these students, promoting student engagement and active learning.

In the Business school, in the first instance students were required to record a group discussion based upon their reading of a peer-reviewed journal article. Learners were then required to edit their audio recording to submit as part of the assessment. The stipulation by the tutor on time was six to eight minutes. This was intended to help with managing marking the assessment. In collaborating to create this audio file, the tutor reflects:

“students seemed to put more work into preparing this presentation than I have witnessed previously...I have used group discussion in the past as an assessment tool but this was probably the most effective methodology.” [sic]

However, the second use of audio with 280 students to provide feedback on assessment was problematic. The tutor managed to record feedback to just a small % of the total, i.e. 25 pieces of work or 50 students.

The tutor reflects further:

“Within this project [referring to the first instance of audio use] we provided students with the recording devices, however these are a small number which are being passed around between different tutors and this can be limiting”.

In addition, problems were encountered in getting assessment feedback to students. Using the institutional resources i.e. VLE and the schools feedback forms in conjunction with recording feedback was time consuming and awkward.

Using MP3 recorders meant that tutors could not easily identify which student the recording related to and in the end they had to stop between each recording, upload and name the audio file provided by the learner to the tutors' personal computer. This was cited as *“my single biggest problem”*. [sic]

On a more positive note the tutor reflects:

“I found using the recording devices for students work to be very, very useful and am looking at the feasibility of doing exactly the same... [sic].

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Biography

Martina A. Doolan is a National Teaching Fellow, Institutional Teaching Fellow, Blended Learning associate and a Principal Lecturer at the University of Hertfordshire. Martina was awarded a National Teaching Fellowship 2007 for her work. Her current interests include and are not limited to: Web 2.0 Social Software, Group Work, Assessment and Social Constructivist approaches to education. Contact by email m.a.doolan@herts.ac.uk, share resources at: <http://madoolan.com/>

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