iGather: Learners as responsible audio collector of tutor, peer and self reflection

MIDDLETON, Andrew, NORTCLIFFE, Anne <http://orcid.org/0000-0001-6972-6051> and OWEN, Rosie

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iGather: learners as responsible audio collectors of tutor, peer and self reflection

Andrew Middleton*, Anne Nortcliffe and Rosie Owens
(Sheffield Hallam University)

Abstract. Feedback is frequently described as something that is done for the learner: feedback is 'given'. This paper describes how audio feedback can be designed as a device that facilitates personal and autonomous knowledge construction. The Student Audio Notes Project at Sheffield Hallam University encouraged students to use MP3 recorders to gather the comments, explanations and ideas of tutors and peers, and to also use audio as a channel for personal reflection. Students became responsible and active 'owners' of their audio data, and so were more likely to use it to feed forward, or affect, their learning. This paper draws upon student testimony from a year long project and reports on how the 52 student participants used their MP3 recorders to gather useful formal, informal and semi-formal voices. What did they decide would be useful? How did they work with the recordings? And could they have been guided further in iteratively reviewing their recordings? Those attending this short paper will be asked to help identify ideas for, and the implications of, encouraging the wider use of student collated audio feedback.

Introduction

Feedback provision in higher education is typically described as something 'given to the learner'; an academic monologue as opposed to a dialogic engagement (Attwood 2009). Many feedback methods put an unnecessary spotlight on the tutor's voice, missing the rich opportunities in which students find themselves and in which students could generate their own feedback from less formal situations. Furthermore, the delivery of effective feedback can be a logistical challenge, especially for large cohorts (Nicol 2008). This paper reports on the outcomes of the Student Audio Notes Project at Sheffield Hallam University, which initially set out to shift the responsibility of recording student-tutor conversations to the student (Nortcliffe and Middleton 2009b). As the project took shape it was realised that the MP3 recorder could be a liberating device for the student participants who were encouraged to notice feedback wherever it occurred and to use their MP3 recorders to gather useful comments, explanations and ideas from tutors and peers, and as devices for their personal reflection too. Thus, the project sought to support students in becoming more responsible and active finders, gatherers and 'owners' of their feedback, and to appreciate the value of conversations that may otherwise have been ephemeral and possibly seen as unimportant.

This paper draws upon student testimony and surveys from a year long project and reports on how the 52 student participants used the MP3 recorders they were given and draws out some of the many ways they captured useful formal, informal and semi-formal voices.

*email: a.j.middleton@shu.ac.uk

Background

The benefits of the asynchronous voice to support learner control have been appreciated for some time. Stone-Harvey (1988), for example, reported on the value of using video tape to record lectures for distance learning students as it enabled them to learn whenever it was convenient, optimising their learning potential and resulting in higher grades. Since that time education has appreciated the value of the social situations in which the learner can be engaged; and this means valuing conversation. Vygotsky and Kozulin (1992, p219), for example, explained that,

> Thought undergoes many changes as it turns into speech. It does not merely find expression in speech; it finds reality and form.

Audio feedback, as with other forms of educational podcasting, finds benefits in the asynchronous access to the important voices that are available to the learner. This is not a new technique; in 1977 Moore noted how students preferred audio to written feedback, which was susceptible to misinterpretation. Good feedback should enable the learner to easily decipher their feedback and allow them to make meaningful connections between the feedback and their learning (Nicol and McFarlane-Dick 2006). Audio feedback is well-suited to doing this given that it is able to convey more than mere words through tone, expression, use of language, pronunciation and personalisation (Rust 2001). Rotheram (2007) has also proposed audio feedback as the ideal medium to provide good feedback to support student learning because of the communicative clarity it affords.

Takemoto (1987) cautioned that audio feedback, given as an academic monologue, limited learner-tutor interaction. The academic monologue approach to audio feedback might be described, therefore, as feedback transmission and Boud (2000) has argued that a tutor transmitted approach to giving feedback limits learner empowerment learner and the development of their self regulation. According to this view therefore, conversation between the learner and the tutor, or amongst peers, is more likely to support the learner's development.

However, the positive impact of any conversation decreases with the passing of time if an adequate record is not made of the conversation; even inspiring discussions can result in vague memories (Waterfield *et al.* 2006). The audio recording of feedback conversations between tutor and student would seem to provide a useful tool for capturing otherwise ephemeral, yet potentially significant, moments. Once captured such moments can be accessed later to enhance and deepen the student's learning.

The recording and distribution of learner-tutor feedback conversations by the tutor has been shown to be an attractive and effective method (Nortcliffe and Middleton 2009a); however, it is difficult to scale to large cohorts and the academic, rather than the student, has control over and responsibility for its generation and distribution. Higher education has responsibility for developing a range of transferable skills and attributes in its students; one such important quality in a graduate is the ability to take more responsibility for their personal development with minimum supervision (Race 2001); if students are always spoon fed feedback education may be doing them a disservice.

This change in emphasis from the dependent to the responsible student is echoed in the notion of a broader view of feedback too, where an active enquiry or problem-based learning paradigm engenders many opportunities for feedback from all those who are encountered during the course of such study. It would be incorrect to assume that the academic is always a participant and present in every significant learning conversation. For example, peer discussions about lectures, assessments, tutorials, and student's personal reflection of learning outside the classroom are potentially as rich as formal learning provision. Therefore, it appears that any learner-centred audio application that enables the learner to engage and re-engage with the multitude of the learning conversations they have has the potential to increase and deepen learning. This can be deepened further by optimising the learning conditions if learners are to recognise when it is most useful or convenient to re-engage with their significant conversations.

It seems more appropriate and logical to shift more responsibility to the learner for gathering and reflecting upon their own feedback notes. The responsible learner, it would appear, is better placed to make, save, manage and work with their captured conversations.

This becomes clearer when looking at the literature on note taking: according to Intons-Peterson and Fournier (1986), note taking increases memory encoding in the note taker and their ability to recall information later. In a handbook for students, Race (2003, p33) says,

> The notes you make... are among the most important resources you build up during your studies.

Pauk (1989), who devised the Cornell note making system, describes a 5R approach to the learner's engagement with their notes; a phased process of recording, reducing, reciting, reflecting and reviewing notes. This recognises that notes have a life; they are not just records, they are there to be worked on.

Project methodology

The Student Audio Notes Project was devised as a cross institutional initiative to discover whether audio recorders could support students in becoming more responsible, active and autonomous learners. The project aimed to,

- place audio devices in the hands of the students;
- encourage the students to take responsibility for generating personal learning recordings ;
- enable students to take a creative view in identifying and recording potentially valuable learning conversations;
- encourage self regulation, personal learning development and learner autonomy.

Undergraduate participants came forward from a range of disciplines including Fine Art, Facilities, Nursing and Computing. Some were new to university, whilst others were in their final year. 52 students took part and 50 of these were supplied with a small, unobtrusive MP3 device with built-in microphone, 4Gb of memory, and an easy plug and play interface to any computer for file management and backup. The remaining two students had their own device.

The majority of the devices were issued during a day of short drop-in induction sessions where participants received guidance in using the device and were encouraged to think about ideas for using recordings to support their learning. The students were also asked to sign a project protocol agreement which advised them of etiquette based upon the Chatham House Rule (2002) in respect to recording and the rights of the peers and tutors they might involve. The students were told that they could not share their audio files with anyone beyond the university; however, they were encouraged to share their recordings with their peers, a practice that previous research has suggested places value on audio recording as an academic activity (Middleton and Nortcliffe 2009a).

A project home site was established in the virtual learning environment composed of a discussion board and podcasts to enable academics and students to support one another following the induction session and as a place to store protocol, guidance documents and release forms. Participating students were also supported individually by the academics via email.

Evaluation methodology

The evaluation of the approaches used by students and their reflections on the opportunity was conducted using a mixture of quantitative and qualitative methods. The aim of the research was to capture stories about the various situations in which students had used the devices and their experiences of recording and listening back to the recordings.

Student surveys were carried out twice during the project and interviews were made with individuals and groups at three points during the academic year. Interviews about student expectations and intentions for using the audio recorders were conducted at the outset of the project. As well as providing a useful set of data from which to compare perceptions during the project, these recordings were shared for all to hear in the project's podcast feed so that participants were able to inspire each other. Half way through the project, and again at the end of project, focus group interviews were conducted to find out about the deployment of the devices and the benefits of using them. Each interview was transcribed, analysed and encoded to identify methods of deployment, approaches to recording, the types of conversations recorded, approaches to listening, impact on learning, the personal reflections of students on the project, and the implications of self-initiated audio recording for future students. Online surveys were conducted about ten weeks into the project and again at the end.

Participation, and the invitation to participate, in the surveys and interviews were intended to affect those taking part; they were not simply objective research methods. Ideas were shared between students at every opportunity. Indeed, one respondent noted how the request to participate in the mid-project focus group had reminded him following the semester break that he had intended to use the device in a new way.

Results

Initial student perceptions

Interviews with student participants revealed that there was a variety of reasons for why students were attracted to the Student Audio Notes Project. In general, most indicated that they believed the project would help them to learn and, on further questioning, they believed this would happen by recording lectures. The following student identified the perceived value of recording lectures,

> For me, to record a lecture would be really useful because I could go back and reflect on it again because there's often points that I miss out which are quite important. And also when I'm doing group work I sometimes forget other people's ideas and it would be good to go back and remember them.

First survey

As reported by Nortcliffe and Middleton (2009b), 31 out of 50 students enrolled on the project's Blackboard support site and completed the initial online questionnaire three months after the project's launch. The results indicated that the majority of the students (68%) used the devices as expected; for recording lectures. However, in the survey results, 35% of the students were also gathering tutor feedback and 42% peer conversations. Importantly, 74% of the students believed that the audio recordings had helped them to improve their learning.

Mid-project focus groups

The mid-project focus groups were conducted at the beginning of Semester 2. These sessions took the form of semi-structured conversations (Cohen *et al.*, 2000) involving nine students from the project who were interviewed in pairs or on their own, as reported by Nortcliffe *et al.* (2009). The interviews were designed to ascertain the variety of ways in which students were deploying the devices and making audio notes. These sessions revealed a wide variety of applications from formal (i.e. the planned curriculum), semi-formal (i.e. opportunities that occur around the planned curriculum), and informal (i.e. from beyond the formal curriculum). Curriculum, here, is used to mean the learning context as affected by people, content, environments and actions. A range of applications began to emerge: lectures, group work, and formal tutorials; semi-formal 'corridor conversations' and opportunistic after-class student summary conversations; and informal encounters beyond the university and personal idea noting (Middleton and Nortcliffe 2009b).

However, the analysis of the transcripts indicates that at this stage in the project the students were primarily using their devices either as external memory aids, or memory backups, to capture what they were likely to mishear or forget, or as an individual or collective memory dumping tool, as shown by the following students,

> At the time in a lecture you might be really tired if you've been up all night and you can listen to it again in a time that better suits you when you know your mind's in gear.

and,

> I used it in one of the groups for group discussion. I was able to play it back later and remember extra little bits that I missed and I can attach it to the speakers in the car and play it through.

As the focus at this stage in the project was on the deployment of the device as memory tool, it is not surprising that students continued to talk about recording lectures. However, the students' applications are growing and changing from their initial ideas, particularly in relation to the potential benefit of identifying, gathering and reflecting on a range of formative feedback conversations.

This student revealed that her friendship group was used to giving each other feedback and that they were already familiar with recording such useful conversations,

> I have recorded a couple of feedback sessions that we had and a couple of seminars where we've been getting friends to feedback on our own work. Just so that I can remember that a bit easier. My friend uses a voice recorder anyway. She uses it for pretty much everything, so we're all kind of used to that and it's quite useful to get somebody else's opinion on your work instead of trying to remember it all you can go back and listen."

Several participants described how they made personal notes: "Picking up the little stuff... the ideas." Several noted that they always kept it close to hand,

> I've used it to write my dissertation when I've had ideas, and put it beside my bed and when I've woken up and I've had an idea 'and I must do that... write this bit like this.'

The immediacy and accessibility of the devices was important,

> We're supposed to keep a log about what's going on through the project in a work book, but with that project work book it's not something I feel that I would take around with me all the time scribbling notes everywhere. If I'm having a conversation with someone, I'm more inclined to have that conversation rather than 'let me make a note of that, and let me make a note of that.'

The following views represent the potential of the reflective, autonomous audio gatherer,

> When I've got role play meetings for course work, then you can listen to yourself and get feedback rather than just the tutor giving you feedback. You can listen to yourself and see where you think you've gone wrong.
>
> I think it could be good in tutorials. I find it really helpful when it's information aimed directly at me. I'd be able to listen back to that conversation within the tutorial and take it on it board more.

Above all the tool fits well with the day-to-day needs of some students,

> [I am] doing my dissertation and there'll be a lot I want to note down including general conversations with tutors as well. So, it will be useful to use it then. Like in feedback sessions.

Audio also offers connectivity between formal events,

> You listen to it again and it matches what you've learnt in the lecture and gone over in the seminar. And I worked out if I listened to it just before the next lecture it actually flowed better.

This potential for connectivity is important to feedback, where one of the challenges is carrying the lessons from assignments forward to affect future study and work.

Second survey

As reported by Nortcliffe and Middleton (2009c) the second survey results were completed by 34% of the students enrolled on the project. They indicate a shift in the predominant use of the device from gathering lectures to feedback showing that half of the students indicated deploying the device to record feedback, in comparison to 32.5% for lectures. It is likely that this coincided with a general shift in

pedagogy at this time in the academic year. Either way it shows that learners adapted their use of the technology to address their needs. As one student commented in the free text responses, the device is very practical for capturing feedback. When asked what advice he would offer other students, he wrote,

> I would recommend they use the recording device when they ask a tutor questions on a difficult subject they don't understand so that they can listen back if they don't understand it when it is first explained to them. This is also useful for meetings and assessment feedback.

End of project focus group

The end of project focus group consisted of three student participants. It was noted that the practical use of the device as a memory aid continued, but rather than making lecture recordings their audio notes took the form of feedback notes and personal notes.

The making of the audio notes using was seen by several students in the project as an aid to concentration, saving them from being distracted by making written notes during important conversations,

> It's useful with your supervisor because your supervisor will tell you stuff and you're not having to write stuff down all the time. You've actually got a record of it without having to [interrupt the conversation].

As the discussions progressed in the focus group the impression given was that the students' perceptions and their practical uses for the audio devices in enhancing their learning was maturing to provide real, tangible benefits. For example, each of the students had established ways of integrating and embedding the audio into their processes of receiving, distilling, reflecting on, and providing peer feedback,

> We had a small group meeting on a presentation we were doing. And from the recordings on that, the feedback I gave [the rest of the group] on the emails when we were all communicating, I reminded some of the people of some of the things we said and it did seem to come across really well. I was able to pick on bits and pieces that people had missed off.

This was a technique that the other members of the focus group had used too,

> I recorded in a group work situation and fed back to people.
>
> In the little group meetings it's been handy to have that is to play back and a couple of times when people have been away just given them the recording.

Equally, the students also highlighted that the listening back to the recordings was critical in allowing them to synthesise their own notes through a process of self reflection, both in the short term for course assignments, and in the long term for continuous personal development.

> What I try to do after each recording is go back in the evening and label them so I don't get confused. So it's useful, when I've had assignments, going back over the assignment work.
>
> It was useful for reflective practice because you can record stuff and then go back later in the day and see what happened. And that's what you need to do for your CPD.

Conclusion

The students' initial ideas for using the audio devices focused upon a simple formal picture of being a student at university and the teaching they would normally expect to receive. In many cases they became interested in the project because they had experienced difficulties retaining the information that was conveyed to them using formal didactic methods in the past. This helps to explain why there was an initial focus by the students on recording lectures.

Supporting autonomous feedback

Even though this paper has not dwelt on the student's interest in recording lectures, it should be acknowledged that most of the students valued being able to record these presentations because they recognised their own difficulty in engaging with the content delivered in this way for both practical and cognitive reasons.

The paper's focus has, instead, been on feedback and how the availability of the recording devices has helped the students to recognise significant conversations and in some cases has perhaps caused conversations to take place. If this is right the device may be better understood not as a recording device but an instigating device.

As the project progressed and students experimented, their perceptions and methods matured. They recognised benefits beyond the lecture theatre and other formal environments and began to record self-selected significant conversations and personal constructions. Their interventions in this way have allowed them to think more deeply about what has been said, and at times that have suited them.

Approaches developed by the students to using digital audio as a feedback gathering medium have ensured that significant, but possibly obscure, conversations have had an important life beyond the ephemeral richness that typifies so many transitory encounters in education. The availability of the devices has created an opportunity for the students to engage and re-engage with conversations that they had decided were meaningful to them.

Audio culture

The raising of institutional awareness to enable learners to gather and manage their feedback may be important. Encouraging and recognising the emergence of institutional audio cultures may result in widespread meaningful formative conversations from all quarters. Further work needs to be done in estimating the value of conversations across the formal, semi-formal and informal environments that are traversed by the learner and this means that serious consideration needs to be given to what education recognises as formative feedback. The students in the audio notes project valued the various conversations they had with academics, their peers, and others by recording them. This is a revealing act of engagement.

Learning support

Giving effective feedback is a useful life skill and a habit that can be developed amongst learners for both their personal and professional ongoing development. Recognising the opportunity to give feedback as well as receive it may go hand-in-hand with being a responsible learner.

Synthesis

The audio notes project heard how students were able to respond to the suggestion to think creatively about the opportunities in the voices around them. Many recordings were made, but it is not clear to what extent the captured moments were reviewed and reduced, or acted upon in other ways. It is not enough to say, “Here is a recorder and it can help.” Further work needs to be undertaken to look at how recordings should be managed and further manipulated by students. Part of that work should evaluate how the meaning of notes changes over time. It seems likely that meaning will change through a series of iterations over time as first statements are made and recorded; then remembered; then re-experienced; reviewed; and later rediscovered.

Creativity and adaptability

Students showed themselves to be motivated, creative and flexible. They responded to the challenge that they might find rich experiences beyond the lecture. Once the suggestion had been made, students collected records from situations that had not occurred to them at the outset of the project. The act of recording became an act of 'saving' the ephemeral and there was evidently a marked shift during the project from gathering formally delivered content to recognising the value in other encounters.

Audio bridges

Audio crosses formal boundaries in the same way that learners cross boundaries to study. As they move they don’t stop thinking and so the recorder enables connections to be made across space *and* across time. This bridging of contexts needs to be understood in terms of the challenge of learner progression where modularisation can result in disjointed learning experiences. Audio feedback may have great value as a pervasive medium, especially if the student is the producer and user, independent of the preferred methods of particular academics.

Effective feedback must be given, but effective feedback may also be discovered.

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