

A journey through audio feedback

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A journey through audio feedback

Anne Nortcliffe

Setting out

In 2006 I had conducted research into the student's appreciation of audio lecture notes and, for me, this highlighted the value of the recorded voice (Fidler *et al.*, 2006). It showed that audio could capture not only what the lecturer said, but the essence of the live lecture experience.

Students at the time explained that it enabled them to re-listen to what was said and that it even allowed them to be cognitively transported back to the original experience. They believed they were able to re-engage with their own thought patterns, as well as the actual lecture content. Based on this student appreciation of the audio lecture notes I realised that more could be done: that audio could be used to provide feedback to students.

Audio feedback

The four main reasons I adopted audio feedback were:

- I had already used audio to record my lectures in the form of audio chunks posted to the module VLE site;
- I was providing the majority of the formative and summative assessment feedback verbally in all of my modules;
- Students were not able to effectively recall the feedback they were given;
- I am dyslexic.

My computer engineering and software engineering modules are practical-based subjects by nature and suit the verbal feedback technique I use in the lab. These subjects typically employ assessments that require the students to research, design and produce something real and tangible; therefore lab demonstrations are required to fully appreciate the students' work. This is particularly the case in computer programming modules where students walk tutors through their design, their software code implementation and the running of the software, while the academic provides feedback. It is common practice in these subject areas for an assessment grid to be used to capture the mark for each element of the assessment, and occasionally to combine this with short written comments and, subsequently, some

generic feedback for the cohort. However, there is a limit to the volume of feedback that can be written before moving onto the next demonstration and I have therefore always taken a verbal approach to giving feedback on project work.

Prior to the use of audio capture, the verbal feedback approach I used meant that the formative learning opportunity was largely ephemeral unless the students involved were able to manage their own note taking. However, making notes can be distracting for all involved in the formative conversation that takes place during a demonstration.

Working with the written word is particularly problematic for me because I am dyslexic. Writing requires that I have a dictionary to hand and the time to craft the words into readable English. As a result I have compensated for my dyslexia over the years by refining methods of providing verbal feedback in a more constructive and efficient manner.

The earlier audio lecture notes research had indicated the potential benefits of revisiting experience through listening to audio recordings. Therefore, it became obvious for me to find out whether providing recordings of my verbal feedback on assignments could have a similar, beneficial impact on student learning.

Recording the feedback conversations appeared to have the potential to not only capture conversations for memory, but also to act as a device for cognitive re-engagement, just as note-taking has been shown to increase memory encoding and recall among note-takers (Intons-Peterson, 1986).

Therefore, it was logical for me to record live feedback conversations with the students and distribute these back to them. Research into the impact of recording these tutor-student feedback discussions shows that they have had a beneficial impact on student learning and engagement, with students attributing increased grades to having ready access to the feedback after the discussion (Nortcliffe and Middleton, 2008).

I have used several approaches to audio feedback in response to a variety of teaching contexts.

Initial Approach

The initial approach, which we have called *Personal feedback conversations (ibid)*, involves recording the conversations I have with students with respect to their formative and summative assessment. Typically the conversation takes place with a student or student group walking me through their assessment. The students then propose and discuss their position on the assignment assessment grid while I interject with feedback and questions regarding their work and my own view of their progress.

The audio file is saved and renamed according to the *Assessment Name-Student/Group Name*, and made available to them using either email or the VLE group file exchange. However, I have encountered technical difficulties on occasion, including device error (e.g. battery failure) or operator error (e.g. the microphone being plugged into the headphone socket). In these situations I have had to record a two-minute reflection of the conversations later. This has highlighted the benefits of capturing the richness of conversation compared to the isolated tutor monologue model. Subsequently, I have used a device that is easier to operate and has a longer battery life.

Current Approaches

Having become more confident in developing audio feedback, I have recorded generic feedback targeted at the entire student cohort. The approaches I have taken in doing this have involved recording live feedback discussions involving the students or recording feedback in isolation. This generic or 'broadcast' model of feedback has been structured according to common feedback themes emerging from the assignment and has been made available through the VLE within 24 hours of the assignment submission.

In addition to this, I have recorded individual feedback in isolation for each student on their assessment submission. This approach has been used where demonstration-discussion methods would be inappropriate.

Recordings made by me in isolation usually state two positive comments and two comments that suggest how the student can improve. This is similar to providing written feedback on an assessment cover sheet, but allows for more detail as recognised by the response a student gave during evaluative interviews I conducted:

Nice you got the detail on each question. Each question got about 30 seconds of feedback, which was nice. You don't always get that... it was also nice that it was personalised.

Audio feedback therefore enables me to tailor a highly personal and formative feedback response for each student and I find it more efficient and effective given my personal difficulties in providing written feedback.

Finding and giving support

I have been self-sufficient with respect to the actual implementation of the audio feedback: its recording, distribution and student notification. The university's Learning and Teaching Institute has assisted me in identifying simple, time-efficient, usable and easy methods of audio file management and distribution in order to lessen the impact on my workload.

The level of support I have had to give the students has been minimal and has mostly involved me highlighting the benefits of listening and re-listening to the

audio recordings, explaining how they can work as a rich, detailed aide-memoirs and potentially as a way to help them re-engage with their thinking to apply what they have learnt to future work.

Impact on my academic workload

The technology has enabled me to capture laboratory conversations that were already occurring and so the impact on my time is minimal. I don't edit the recordings so the additional workload involves renaming the audio files for easy identification and the distribution of the files through the VLE's content management system. This can take up to one hour after each laboratory for a class of about 25.

The recording of generic feedback, which I base on 10% of the cohort submission, is less time consuming; however, assessment submission deadlines need careful planning to ensure there is sufficient time to mark work within 48 hours of the submission deadline.

The feedback I give in response to individual submissions is recorded using an MP3 recorder as I mark the work; this gives me more flexibility. The name of the assessment and student are identified at the beginning of each audio file to ensure appropriate file management, and later it is renamed accordingly. Although the personal audio feedback generation, file management and distribution process is time consuming, it takes me less time than providing detailed personal written feedback on each student script. Once renamed, the audio files are uploaded to the university's content management system by dragging and dropping the files from my PC to a Web folder. This is quick over a large bandwidth connection. Each file in the content management system receives a unique location address, and each student is notified via the VLE grading system of the address for their personal feedback file. This distribution approach takes less than hour for a cohort of 75 students. However, this approach has been updated and made more efficient by using an *iPhone* and the *Recorder Pro* app (Nortcliffe and Middleton, 2011). In this approach each personal recording is emailed directly to the student from the phone.

Although audio feedback generation, file management and distribution can be time consuming, it takes me less time than providing detailed personal written feedback on each student's script.

The student response

The main benefit to my students is that they receive feedback that is rich, meaningful and timely.

Students' initial responses to receiving feedback are interesting. For example, these 2008/09 students:

[It was] weird at first, it was... a nice way of marking I think instead of red pen on paper, which can be quite harsh. You can hear the emotion as people are speaking, so if something is not meant negatively you can tell it was not meant negatively.

Students have appreciated the sense conveyed in the tone of my voice:

If she's emphasising one point she might sound different, whereas if it's just written down it all sounds the same.

Timeliness is not just about speed of turn around, but the availability of the feedback:

It's just there on your computer - at home, at university. Anywhere, any time.

Because the feedback was there, I used it.

The 2007/2008 cohort was very receptive to the feedback being provided within 24 hours of the submission deadline:

I thought it was good to give us at least some indication... before we got the official mark and feedback...

The 2008/09 students recognised that audio feedback can be reused, giving them a way to monitor their progress, extending the notion of timeliness to include multiple engagements whenever it is useful to them:

We could download it and archive it onto our hard drive so we could look at it and see how we have changed since we have started.

Conclusion

In my experience giving audio feedback has been an effective approach to facilitating student learning and one that is valued by the students as demonstrated by survey evaluations, which confirm the findings from student focus group interviews (Nortcliffe and Middleton, 2008; Nortcliffe and Middleton, 2009).

While providing laboratory feedback has added to my workload, other methods, such as the provision of personal feedback on student's written work, has freed up time for me.

Using audio feedback has enabled me to connect with my students personally, beyond the conveyance of mere information, and they have particularly noted their appreciation of this, whichever of these methods is being used. Audio feedback, therefore, has helped me to promote an engaging conversational learning culture.

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