

Sounds Good: Quicker, better assessment using audio feedback

Evaluation

Project outline

Can digital audio be used to give students quicker, better feedback on their work? That was the central question for the 'Sounds Good' project.

Based at Leeds Metropolitan University, Sounds Good was led and managed by Bob Rotheram, National Teaching Fellow. It built on Bob's experimental work on a postgraduate programme, giving summative feedback on student assignments via MP3 sound files. This indicated benefits for students: comments which were more extensive, clearer, more personal and easily-accessible. Staff also benefited: saving time by speaking rather than writing the feedback. Students were very positive about it.

Between January and July 2008 a team of seventeen Leeds Met staff investigated further through Sounds Good, funded by the Users and Innovation programme of the Joint Information Systems Committee (JISC). The focus was widened to include formative and summative feedback, in various subjects, at different educational levels. The trials involved staff audio-recording comments on students' coursework and delivering the feedback through email, a virtual learning environment and mobile devices such as MP3 players.

The project was conceived as a pilot, to explore the territory of digital audio feedback. The structure was deliberately flexible, to adapt to the real world of higher education and to try to maintain the goodwill of busy colleagues. From the outset, it accommodated a range of staff preferences and circumstances rather than imposing a rigid design and rigorous timetable. The main suggestion to staff volunteering for Sounds Good was that they should focus on one of their 2007-8 Semester 2 modules in which they were likely to give two rounds of feedback on an item of student coursework, one formative and one summative. However, in negotiation with team members, the project manager agreed a number of variations on his original suggestion. Hence some module leaders provided their students with one or three rounds of audio feedback; some only gave formative feedback; one team member used audio in a variety of ways (not just for feedback), both within Leeds Met and elsewhere; one gave video feedback via Camtasia software.

The plan was for data-gathering to be done mainly by questionnaires, administered by the module leaders on their students, and by the project manager on the module leaders. The intention was for students and module leaders each to complete a questionnaire after a round of audio feedback. So if the basic project design was followed, each student and each module leader would complete two questionnaires. However, it was acknowledged from the outset that there would be variations on this, to accommodate the preferences and circumstances of some module leaders.

It was also planned to gather data by holding a focus group for students after they had received audio feedback. In addition, further comments from module leaders would be gathered if offered.

The flexible structure led not only to varied experiences for project staff and students. It also produced varied batches of data. For example, most module leaders – as intended – returned the individual questionnaires completed by their students, but one provided a *summary* of what students had said. Some module leaders completed staff questionnaires, but others did not, preferring instead to send written comments or an audio file containing their observations on Sounds Good. The student focus group was cancelled because of a lack of participants.

The variety and gaps have caused some difficulties in analysing the data, and the non-standardisation inevitably limits the inferences which may be drawn. The numbers of students receiving audio feedback on the various modules ranged from six to 151. At least 463 students received one or more items of audio or video feedback. Beyond that, it is not possible to say much of a quantitative nature. Arguably, the team are atypical higher education teachers: they were all volunteers and the majority had already been recognised by the University for their abilities in, and commitment towards, assessment, learning and teaching. In truth, the project has generated sixteen case studies, some of them very small, about the use of digital audio or video. It has not produced firm findings which may be relied upon or which could confidently be replicated elsewhere.

That said, the project has assembled a wealth of qualitative data, from which it has been possible to identify a number of themes and issues for further exploration. In addition, Sounds Good has produced somewhat firmer practice guidelines in relation to using audio for feedback, which should prove helpful to practitioners.

Evaluation questions

JISC helped the project (and others in the 'Users and Innovation' programme) to identify appropriate evaluation questions. Sounds Good settled on these:

- (Without reducing the amount of feedback) in what circumstances can using digital audio save assessors' time?
- Does digital audio feedback improve students' learning experience?
- What do assessors think of digital audio as a medium for providing feedback to students?
- What recommendations are there for improved practice?
- What should be explored next?

Tentative answers to these questions appear below.

(Without reducing the amount of feedback) in what circumstances can using digital audio save assessors' time?

Of the 13 assessors who commented on this issue, five reported that giving digital audio or video feedback took more time than their usual methods, six thought that it took about the same time and two reported that it took less time.

On the face of it, the fact that only a small minority of staff reported saving time might be regarded as disappointing. However, most expressed satisfaction with their efforts and noted that students received more, and higher-quality, feedback than they otherwise would have done. Some acknowledged that they got quicker as they became familiar with the technology and techniques of audio feedback. Some who found audio feedback took them more time, or about the same time, only used it with quite a small number of students so, arguably, they had not achieved full familiarity by the end of their involvement.

The module leader who probably spent the most time giving and sending audio feedback to students was the leader of a small team of assessors. He said that whilst it was "incredibly time-consuming" he had "got the brief wrong" and found himself doing far more on behalf of his colleagues than had been intended. Another who reported spending more time on audio feedback even after becoming used to the tools and techniques noted two factors which are probably significant: a) her feedback was very brief; b) she was quick at typing and handwriting.

Both of the assessors who reported saving time by using digital audio feedback said that they managed to do so without compromising the quality of the feedback they provided. Indeed one (who was giving formative feedback to dissertation students) said, "I spent a

little less time but gave much more detailed feedback and expanded on explanations." It is worth noting that of all the members of the Sounds Good team, these two assessors are probably the most experienced users of technology.

So the indications are that it is possible, *in some circumstances*, to use digital audio to save time and not compromise on the amount and quality of feedback to students. The most favourable circumstances would appear to be:

- The assessor is comfortable with the technology.
- The assessor writes slowly but records their speech quickly.
- A substantial amount of feedback is given.

We might expect that it will take some people longer than others to become familiar with the technology and with the techniques of recording their comments. Perhaps, therefore, more of the Sounds Good team would have reported being able to save time without compromising quality if they had had more practice with giving feedback via digital audio. Encouragingly, after delivering the second round of audio feedback one module leader said:

"It was easier this time, as I knew what I was doing."

Two module leaders suggest it may be worth looking beyond the simple, short-term, matter of whether using audio feedback can save staff time. One noted that he and his colleagues saved time overall by using audio to give extra advice to students on a piece of assessed work as well as to provide feedback. The audio guidance reduced the need to clarify in other ways what was required with an assignment. Another, highly-experienced, member of the team took the view that:

"Giving students richer feedback will save you time anyway, as they take more notice of the feedback, and need less repeated feedback, and need less critical feedback in future anyway as their work is better, so it saves you time."

Does digital audio feedback improve students' learning experience?

Students were overwhelmingly positive about receiving audio feedback on their coursework. They frequently remarked approvingly about its personal nature and the detail provided, evidence that the lecturer had carefully considered their work. There was particular approval if the feedback was received quickly. Some appreciated the advantage of replaying the feedback. Other students noted that audio made it easier to grasp what the lecturer felt was most important, or that it helped them to understand better why they had received a particular mark. Students whose first language is not English were pleased that it gave additional practice with their listening skills. A dyslexic student said that it was easier to listen than to read.

On the other hand, some students had reservations. A minority said that they preferred written feedback; a few asked for both audio and written comments on their work. Some noted that it was quicker to skim-read a piece of text than to listen to an audio recording to find the passage of particular interest. Understandably, the reservations were more common when the only feedback provided was audio *to the whole group*, i.e. when students did not receive any feedback – audio or written – on their individual work. However, in one of the two instances where this happened, the module leader noted that if he had not supplied the audio feedback for the group, the students would have had to rely on their own notes of what he said in class – the audio feedback was *extra*.

A few words of caution seem justified. First, although students were overwhelmingly positive about audio feedback, some of the positive responses may, in part, be due to the novelty of audio. Second, how seriously should we take student reservations about it being harder to skim an audio recording than a piece of text? Many lecturers complain

that students pay little attention to written feedback. Perhaps, therefore, it may be seen as an *advantage* that students find it harder to skim audio feedback! Third, if staff make more use of recorded audio, it should not be at the expense of face-to-face time with students – a concern expressed by some Sounds Good students who received assessment guidance as well as feedback via digital audio.

What do assessors think of digital audio as a medium for providing feedback to students?

The Sounds Good staff team were, on balance, strongly in favour of audio feedback; most have clearly said that they intend to continue using it. As noted above, several members of the team commented that they were able to give more, and higher-quality, feedback using audio. The extra feedback might include examples to illustrate the point being made or to show how the work might be improved. The person using Camtasia software remarked that it was easy to explain to students what she meant and to point to particular sections of an assignment. A language tutor said, "it's an interesting and personal way to do the feedback for language students." Some remarked positively on the fact that they used more natural language when speaking, rather than writing, their feedback. This, one thought, made it more understandable to students, particularly when it contained 'feed-forward' implications for future assignments. One team member noted that students found her voice and tone reassuring and comforting. Another, citing widening participation initiatives, thought that audio feedback "is an ideal medium to assist in the development of skills and confidence of students." Yet another now plans to extend his use of audio beyond feedback, to provide more detailed guidance for students, for example on assessment tasks.

In only one instance will the module leader not be continuing with audio feedback, and she had good reason. This assessor thought it appropriate for that particular student assignment only to give brief feedback, and she was, in any case, a quick typist and writer. In these circumstances, providing feedback via audio introduced an additional time 'overhead' for each of the 80 students on the module. This case illustrates what may be the least promising circumstances for using audio feedback.

The great majority of the team found it either 'very easy' or 'fairly easy' to record their audio feedback and prepare it for sending to students. Everyone in the project team was supplied with an Edirol R-09 handheld recorder and nine out of eleven who commented explicitly found it 'very easy' to use. A few also tried recording via various combinations of Audacity, WIMBA Voice Tools and (one person) on an Apple Mac computer. Opinions on these tools suggest that, apart from the Apple Mac, they were not quite so easy to use.

Assessors' reservations about audio feedback were mainly about the practical difficulties they encountered. Some of the problems were: learning to use the recording devices; finding a quiet place in which to record; getting used to hearing their own voices; the time needed to rename audio files; feedback sometimes not reaching students; students having difficulty in accessing the audio files. Three module leaders expressed doubts about scaling up audio feedback to larger groups of students. It is no doubt significant that these three were among those who had not managed to save time by giving audio feedback.

Even though the team's experience has been very positive overall, it should not surprise us that there were some mixed opinions on the use of digital audio for feedback. It was, after all, a new type of activity, performed under pressure. However, the reservations could mainly be regarded as resulting from 'teething problems'.

Perhaps the last word, for now, should go to the module leader who acknowledged that at first he "over-egged the pudding" by opting for a very labour-intensive approach to

providing audio comments for his large group. Despite his unnecessarily hard work, he said:

"I think the experience has been really positive. ... I've got plans to roll this out to other modules now, providing we can get round the technological and logistical demands it places on us. ... It's a trial that has worked well."

What recommendations are there for improved practice?

The recommendations from experience on Sounds Good may be gathered under four headings: saving time; technical matters; administration; feedback structure.

Saving time

- Don't expect to save time immediately by giving audio feedback rather than writing it. As with most new skills, it takes a while to become competent and longer to become expert. Some persistence will be required. Even so, you may feel fairly comfortable after 10-20 attempts.
- How much time you eventually save will depend on various factors, including how much feedback you give and how quickly you write. If you normally only check some boxes and write a few words of feedback, you probably won't save time by using audio. However, after some practice, audio may allow you to give noticeably more feedback without spending much longer on the task.
- Consider accepting a longer pay-back period. Experiment with spending more time in the short term, using audio to give your students more extensive advice and richer feedback. It may save you and your colleagues work in the long term.
- Don't waste time re-recording, unless you really must. Students accept that you aren't a professional broadcaster! If you stumble with your words or notice immediately that you have made a mistake, correct yourself and carry on. If you realise later that you have made minor errors and omissions, do a separate recording and send both to the student.
- Don't risk having an audio file 'bounced' or blocked when emailing it to a student, and then having to spend time looking for a workaround. See 'Technical matters' below for suggestions.

Technical matters

- A handheld digital audio recorder will probably be more convenient than using a microphone connected to a computer.
- If you're buying a handheld recorder, make sure it:
 - can record direct to MP3 (many can't);
 - has a USB port, for easy upload to a computer.
- Check that your students can receive audio files. They will need access to a computer equipped with a sound card, speakers or headphones, and suitable software (e.g. Windows Media Player or QuickTime). Other potential obstacles include: firewalls (blocking certain types of file or email attachments); file size limits; full email inboxes; spam filters.
- To avoid some of these obstacles, upload the audio files to a place from where they can be retrieved easily. Then send links, not the files, to students. Maybe your university's virtual learning environment is not the best place to store audio feedback files.
- Try uploading a test file for each student before you attempt to give them real feedback. Ask for help if you meet problems you can't solve.
- On the basis of this experience, give students further guidance (perhaps in writing) on how to receive and listen to audio feedback.
- Make sure your recordings are loud enough to be heard easily on a variety of equipment. The general advice is to set the recorder's input level as high as possible without introducing distortion. Some experimentation may help.
- Make your audio files as small as possible, so they can be sent quickly and stored economically.

- Mono recording – giving files typically half the size of stereo – is likely to be adequate if only one person is speaking.
- MP3 is a very useful format: compact and widely-playable. An MP3 file is typically less than 10% of the size of a WAV file of similar quality and can be played on a broad range of devices, including the portable music players owned by many students.
- Aim for the minimum acceptable sound quality for the particular purpose. Speaking to an individual student will probably not require as high quality as feedback to a group or a podcast on a public website.
- 32kbps MP3 – which translates to about four minutes per megabyte – will probably be good enough for giving individual feedback to a student.
- Back up your files. Copy them all to at least one other device.

Administration

- Make sure key administrative and quality-assurance staff accept that you are giving audio rather than written feedback. It's usually easy to convince them – as with paper, you can produce the original file, if necessary.
- Ensure that only the intended student(s) can access the feedback file. This will require care and effort at the beginning.
- Keep track of your audio files. You may need to rename them from the default name given by the recorder, e.g. to contain the student's name or ID. Keep a list of the changes and which file is sent to which student.
- Advise students to have a copy of their written work with them when listening to the audio feedback.

Feedback structure

- Before you start recording audio feedback, decide whether a mark is to be included. If it is 'summative', i.e. for credit, a mark will be required at some stage. However, some assessors prefer to withhold the mark from audio feedback, for at least two reasons. First, it can involve the student more if they are required to listen to the feedback and then, separately, receive their mark. Second, moderation of marks may be easier if they are kept out of the audio recording.
- Keep the files short – don't 'overdo it'. Too much guidance or feedback can be counterproductive. More detail may be appropriate and acceptable in postgraduate work, or with undergraduate assignments which have failed.

Bearing this in mind, here is an outline of my most recent practice when commenting on a typical essay or report via an MP3 recording.

- Have the assignment details and assessment criteria with me.
- Read the assignment, making written comments on it as I go along. If it's on paper, I jot things in the margin. If it's in an electronic format (e.g. Word), I use the 'Track changes' facility to annotate the document.
- Read it again, more quickly this time, perhaps making a few more comments along the way.
- Jot down (on scrap paper) the main summary points I wish to make. (See below for a general structure.)
- Start the MP3 recorder.
- Build the feedback in chunks, making frequent use of the pause button.
- Don't bother to erase and re-record 'misspeaks'; just correct them immediately, as in conversation.
- When complete, review the recording. I want mine to be clear and easy to follow. Also, I'm aiming to come across as approachable, definitely not pompous or overbearing.

The general structure is usually along the lines of:

- Introduce myself to the student in a friendly manner.
- Say which assignment I'm giving feedback on.
- Outline the main elements of the comments which I'll be giving (see below).
- Work steadily through the assignment, amplifying and explaining notes I've put in the margins and, especially at the end, making more general points.
- Refer to the assessment criteria.
- Explain my thought processes as I move towards allocating a mark.
- Give the mark.
- Offer a few (reasonably attainable) suggestions for improvement, even if the work is excellent.
- Invite comments back from the student, including on the method of giving feedback.
- Round things off in a friendly way.

For a typical undergraduate assignment, I usually try to keep the length under five minutes. It might be more if detailed comments are expected or needed.

What should be explored next?

JISC has provided funding for 'Sounds Good 2', which will run between September 2008 and March 2009. In this extension of the project, efforts will be made to ensure that the Sounds Good team continues to use audio for feedback. In addition, the project design calls for six members of the team each to induct two Leeds Met colleagues into using audio for feedback. Going wider, the technique will be introduced to three more institutions: York St John University, the University of Northampton and Newman University College, Birmingham.

The experience of Sounds Good will be used as the basis for further exploration. Here are some issues which seem to be worth exploring, if resources permit:

- Can staff become quicker in providing audio feedback if they persist?
- Does using audio to provide more extensive guidance and richer feedback lead to saving staff time in the medium-to-long term?
- How may the practice guidelines (above) be improved?
- How successfully can audio feedback be combined with electronic submission of assignments?
- Can speech-to-text software be used to generate written feedback automatically (and sufficiently faithfully) at the same time as audio feedback?
- Can a way be found to automate the transmission of feedback files to students?
- What happens if tutors and students use audio to engage in dialogue about assessed work?
- Does the novelty of audio – for students and staff – wear off with repeated use?

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