Does it make a difference?
Replacing text with audio feedback.

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Abstract

There is a growing body of evidence which indicates that the potential learning benefits of providing students with feedback, however well crafted, are often not realised, with many students not valuing or understanding the feedback provided. Moreover providing feedback is a time consuming activity for many tutors to undertake, and is often perceived as wasted effort. Within this context the paper examines the potential of audio feedback as an alternative to traditional text based approaches. We draw on interviews with staff and students on three Social Science modules together with an analysis of the feedback itself to explore the value of this approach. The study finds that providing feedback using audio files leads to improvements in both quantity and (it is argued) quality. However anticipated savings in staff time were not realised and possible solutions to this issue are explored.

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Introduction

The importance of feedback in developing students' learning has been highlighted by a number of commentators (Orsmond, Merry & Reiling, 2005: Gibbs & Simpson, 2005: Nicol and Macfarlane-Dick, 2006). Moreover tutor feedback practice has been identified as a measure of teaching quality (Quality Assurance Agency, 2006) and according to the National Student Survey (Higher Education Funding Council for England, 2007) a contributing factor to student satisfaction. In 2007 81% of students taking part in this survey agreed that they were satisfied with their course, but were less satisfied in the area of feedback. Based on the three measures of student satisfaction with feedback, the survey revealed 54% of students were satisfied that they had received detailed comments on their work, 59% were satisfied that feedback helped clarify things they did not understand and 54% were satisfied that feedback on their work had been prompt.

When done well, feedback can motivate students, inform them how well they have done and how to improve (Brown, 2001). However there is a growing body of evidence which indicates that the potential learning benefits of providing students with feedback are often not realised (Chanock, 2000: Higgins, Hartley & Skelton, 2002: Duncan, 2007: Hounsell, McCune, Hounsell, & Litjens 2008). Themes which emerge from this research include wasted staff effort and students not processing the feedback they receive. In addition, providing feedback is often a time consuming activity to undertake and any new feedback system needs to ensure that it does not increase the workload burden on academic staff.

This study explores the value of replacing text with audio feedback and the consequences of this for students, tutors and on the nature of the feedback itself. Similar approaches have been used with some degree of success in other disciplines and institutions (Cryer & Kaikumba, 1987: Kirschner, van den Brink & Meester, 1991: Merry & Orsmond, 2007: Rotherham, 2007) and we considered that this approach may prove to be highly effective in Social Science disciplines that require students to undertake extended forms of writing such as essays and dissertations. We also believed that this method may also prove to be a more efficient use of staff time and a

more effective method for engaging students in the feedback they receive. The following observation from Rust gives an indication as to the potential attractiveness of an audio approach:

> *While reducing the time you spend, this may actually increase rather than reduce the amount of feedback given. Students frequently say that they get far more from taped comments, including the tone of one's voice, than they do from written comments, and they do not have to cope with some of our illegible writing* (2001, p. 22).

Similar claims have been made by other commentators (see for example Johanson, 1999: Merchant & McGregor, 2006 and Rotherham, 2007). In fact, a small literature on giving audio feedback has been in existence for nearly twenty years although the early attempts used audiotapes. In one study with 12 students on a graduate course in photochemistry in the Open University of the Netherlands, Kirschner et al (1991) for example, found that, "The amount of time spent by instructors supplying the feedback differed minimally whilst the amount communicated to the students with audio feedback was significantly greater than the amount communicated with written feedback" (p. 185). More recently, Merry and Orsmond used MP3 files to give feedback to a volunteer sample of 15 biology students. All of the students viewed this method of feedback positively for three main reasons:

a) that it was easier to understand because handwriting is often illegible:

b) that it had more depth because possible strategies for solving problems were included rather than just stating what the problems were:

c) that it seemed 'more genuine' indicating that speech is received in a more personal way than writing (2007, p. 101).

From the tutor's point of view they found that "providing audio feedback did not save them time" but they added "it might do so with more practice" (p. 102). However Ice, Curtis, Phillips & Wells (2007) claimed that giving audio feedback was able to "reduce the time required to provide feedback by approximately 75%" and also that "this reduction in time was coupled with a 255% increase in the quantity of feedback provided" (p. 19).

Within the context of such claims, this paper reports on the first part of a small project

which is investigating the value of using audio files to give students feedback on assignments in a Social Science department at the University of Liverpool. Currently, on most modules that have some form of coursework as part or all of their assessment, staff in the department uses a standard feedback sheet pre-printed with headings on aspects such as referencing, structure, reading etc. Staff can also write comments on the assignment itself but students will only get this back if they hand in two copies (as one has to be kept for archive purposes). Students can also request a meeting with the marker to receive further feedback but this does not happen often and is usually when the student is unhappy with the mark.

One issue with the current method of feedback is that students cannot always read the handwritten comments. Some members of staff in the past have had notoriously bad handwriting and it is not a problem confined to a few. As one member of staff put it:

> *"When we get to the 50th or 60th script, my handwriting has rapidly deteriorated……I fully understand students find some things difficult to read. I don't think it's my problem: it's across a number of my colleagues".*

The feedback form has limited space to write comments which often means that the comments tend to focus on areas of weakness and there is little room to elaborate on points. So there is a concern about whether students actually understand them. Moreover it is not possible to vary the order of comments so their impact cannot be controlled. If feedback is only concerned with giving a brief justification for the mark then these are not major problems. But if feedback is to function to improve the performance of the student in subsequent assignments then this system has clear limitations. All these issues arise in a context in which there is limited staff time available for marking and many pressures on them from other directions. Using audio files is an attractive option if it means giving better feedback to students without spending more time or even saving time.

Trying it out

The project focussed on three modules: a large first year compulsory module and two optional modules, one from year 2 and one from year 3. Four members of staff were

involved in marking the assignments which comprised part or all of the summative assessment for the modules. The members of staff responsible for the modules asked for 10 student volunteers to receive feedback on their assignments by means of an audio file. Table 1 gives the details of each module with the number of students, the number of volunteers in the sample and the nature of the assignment.

Table 1.   The modules and the assignments

Module	Students	Volunteer Sample	Task
Year 1 compulsory	208	8	2,000 word essay
Year 2 option	29	7	2,500 word essay
Year 3 option	37	10	4,000 word essay

In order to introduce some variation into the tutor experience and to test the robustness of different technical systems we asked the tutor on the second year module to record the comments directly into a desktop computer using 'Audacity' audio software (http://audacity.sourceforge.net/), with the other three tutors using two different types of MP3 recorder/players.

The tutors were asked to explicitly compare their audio experience with their written experience on the same module. They were given a form on which to record the time taken to mark the assignment, the mark given and any comments. As we wanted tutors to explore the potential of audio feedback that was most appropriate to their own marking context, we offered guidance on how to create an audio file using the technology but did not prescribe how long this file should be. We did however ask tutors to address the same areas as those set out on the standard feedback sheet but not necessarily in the same order. The intention was for the audio feedback to replace the free comments on both the feedback form and on the assignment. The audio files were made available to the students via the University's VLE (Blackboard) using the digital Drop Box tool.

Evaluation

In order to evaluate the usefulness of audio feedback we first sought the reactions of the staff and students involved. Three focus groups were held for each of the three samples of students. Discussion in these groups was facilitated by two Educational Developers using a semi-structured interview schedule. Some students who could not attend submitted written comments. A focus group was also held with the four members of staff involved. Appendix 1 provides details of the discussion prompts used in these events. Focus groups were transcribed and, to allow for comparisons with the standard comment sheet, each of the audio files was also transcribed and analysed to determine whether the quantity and quality of the feedback provided had changed.

Quantity of feedback

The range in time for each audio file and the corresponding word length is shown in columns two and three in Table 2. We can observe that marker A gave the shortest length of feedback, 1.43 minutes which equated to 221 words. In comparison marker D produced audio files in excess of 12 minutes and on one occasion a file of 21.26 minutes. This equated to 1957 words of feedback on a 4000 word essay. Whatever the total length of the feedback, however, it is interesting to observe that, allowing for variation in the pace of the speaking voice, 1 minute of audio feedback was generating an equivalent of approximately 100 words.

Table 2.   Audio file word equivalents

Marker	Audio feedback (minutes)	Audio feedback (words)	Standard feedback sheet (words)
A	1.43-3.36	221-425	36-74
B	5.27-8.48	592-923	69-144
C	8.03-15.37	1,011-2,002	65-158
D	12.09-21.26	1,086-1,957	83-225

For each tutor a sample of the standard feedback sheets used for students not receiving audio feedback was also examined. Looking at columns three and four in Table 2 we

can compare the range in quantity of feedback provided by each of the tutors when using the standard comment sheet and audio files. It can be seen that in all cases student received more feedback via the audio format. While this comparison does not include comments tutors may have written directly onto assignments it does highlight the potential that audio presents for providing more detailed comments on students' work.

Getting personal

Both staff and students commented on the personal nature of giving feedback via audio files. Two of the tutors began every file with the student's name.

> *"I would start them off by saying [student's name] whereas in written feedback I would never use student's name" (tutor)*

Most of the students were pleased with this personalisation of the feedback:

> *"I actually found that by using the name was quite good because it felt more personal and you are taking the time to read my essay. It just felt more personal" (student year 1)*

Although some were not so sure:

> *"I found it really weird to hear my lecture/tutor's voice coming out from my computer" (student year 1)*

> *Student: I didn't want to hear what I had actually done wrong. Actually hearing and my lecturer telling me what I had done wrong.*
> *Interviewer: that's worse than seeing it written down?*
> *Student: yeah, I think personally.*

Interestingly one member of staff commented that the personal nature of the feedback also influenced their choice of words:

> *"I felt this was a more personalised form of feedback. Because of this, I was less likely to use words like 'poor' or 'weak'. I was thinking this person will be listening to this…so I will say 'this is quite good' or 'this needs some work'. Not just the tone of voice but the actual words I was using".*

And both staff and students were sensitive to the fact that if the essay was of a very poor or a fail standard, then audio feedback might be awkward both to give and to receive.

> *"I wondered what it would be like to fail a student. It would present a number of difficulties".*

Student responses

On the whole the students who took part viewed the exercise positively. This was mainly because of the amount and depth of the feedback compared to their experiences of written comments.

> *"We got a lot more feedback. You can fit a lot into 2 minutes" (student year 1)*

> *"It was great to have a voice as it made it easier to comprehend the comments by setting them in a little more context. Verbalising gives much more depth and I was impressed with 10 minutes of feedback" (student year 3)*

Some students commented on other advantages of the medium itself. One student suggested that as a computer file the feedback was more useful for future reference:

> *"I rarely look at the feedback sheets when I am writing an essay because it's away or in a folder somewhere. But when it's on a computer it's easily accessible and I probably will [listen to it again]" (student year 1)*

Another said:

> *"It was really good. I listened to it quite a few times to get the whole feedback on my essay. When he punched out particular parts, I was able to look back on my essay without flipping back and forth between cover sheets. I found it quite useful because you could read the essay while the feedback is being played".*

However some students commented that it was harder to link the comments to the relevant section of the essay and that written comments were better in that respect. As one student commented:

> *"Whilst listening to the audio file I found myself having to stop and pause it to follow the moderator and add the comments on the essay myself. It just seems a bit of an exhaustive method when it may be easier, for both the student and moderator, if the moderators comments are written on the essay instead".*

Staff responses

All of the staff were concerned with how they sounded on the recording:

> *"The one thing I was apprehensive about was ensuring that I did not come across as awful".*

> *"I was concerned with the quality of the voice".*

It is easy of course, for tutors to check back on written comments, to remind themselves what they have already written and to revise anything as necessary. A major concern with the audio recordings was the lack of a facility to easily and quickly review what had been said and the impossibility of editing the comments without re-recording them from scratch.

> *"It was incredibly difficult: I would regularly get phone calls and knocks on the door and be disrupted. It was hard to go back to find the exact point. I knew how to pause the recording: I didn't know how to go back over the last points and resume from there on".*

> *"I found myself recording 2-3 times, I didn't get any of them right the first page. I lost my train of thought".*

So although MP3 files have some advantages over older recording technologies, audio tapes are easier to manipulate, rewind, fast forward, edit etc than digital audio files.

Whilst it is possible at present for students to compare the amount of written feedback they receive with each other, the audio files give their exact length. Staff were concerned that this might lead to some students focussing on the length and making unhelpful comparisons with other students and tutors. And in fact some of the students in the groups were well aware of the variability in the length of the feedback given.

Staff were also concerned that giving students feedback in an electronic format could make it easy for some students to disseminate them via email or to post their files on Facebook or YouTube. But the biggest concern of the staff members who took part was that producing audio feedback was time-consuming compared to providing written comments:

> *"There's so much effort and time. If we are going to put that much effort why not do an individual essay tutorial that takes 15 minutes? That would be much quicker".*

Quality of feedback

When we compare the quality of the feedback given on the standard form with that given in the audio file a number of observations can be made. Table 3 is a sample of *typical comments* made by the same tutor while using the different formats. While these have been selected for illustrative purposes, it is argued that the audio format does lend itself to a 'richer', more comprehensive form of comment. Whether this results in better student understanding or adds to student confusion is an unanswered question and one worthy of further investigation.

Table 3.   Comparing quality of feedback

Standard feedback form	Audio file
The essay does not include any real introduction or conclusion of any note. The main body would also benefit from better signposting.	*Right [student's name], I'll start with your introduction. Your introduction sets a good context for the essay, it sets a background. What I don't think it effectively does at all is signpost the essay in any way. What I would like to see you do is introduce in your introduction the main ideas that you will be talking about in your essay. Whether that means writing your introduction last of all, that may be a possibility in the future. What you haven't really done is discuss the themes that you are going to discuss within the essay. Of course this question is fairly broad and can be interpreted in a number of ways, so in that case you should make clear your interpretation and how you will tackle this in the introduction.*

Table 3. continued

Standard feedback form	Audio file
Some interesting points have been raised. However they do not come together to form a convincing overall argument.	*Your next paragraph I really like. You used Richard Giulianotti, a Sociologist on sport and Michael Billig a Sociologist on national identity. You use their work to make sense of what you are going to say. I really like this combination. You also talk about how flags are used to develop national…I think we call it national identification. It's an identification with the nation rather than national identity which carries other meanings. I like this, it's good. You also begin to develop this 'us versus them' dichotomy which helps to develop group identities and you begin to sow the seeds of how this could be developed in relation to sport. I think you take football as your main example, which is fine. This is good. What I am a little uncertain about is the use of Durkheim's work which seems a little tenuous to me. If you wanted to develop this, and I'm not saying you couldn't, but it must be expressed very clearly and in the analysis extended and applied thoroughly to the context of sport. I don't quite understand the point you are making in this moment in time.*

A second observation from analysing the transcripts of the audio file concerns the way in which the feedback comments convey the immediacy of the marker's reaction while reading the work. The spontaneous, perhaps unguarded nature of this reaction is captured by the following two comments:

> *"The next point you look at reversal theory as outlined by Apter. I don't know too much about this theory actually and so I think the way you brought it in is to your credit and you have used it to explain hooliganism to a decent level. Whether this is in your own words or whether is in Kerr's words, is a little ambiguous, I'm not sure......."*

> *"Next, what I really like in your essay is the way you use Stanley Cohen's work on moral panics to look at Daily Mirror and Sun Headlines to explain hooliganism. I think this is really, really good. I think actually if you wanted to develop this idea, you could*

easily do this with a dissertation............"

In both cases the normal *editing* of the reaction that would occur in a written comment is absent. What seems to be happening here is a form of *playback* (Lunsford, 1997) whereby the reader is indicating to the writer how the writing is being experienced and the emotions that this induces. As we can see from the example above the marker uses the word *really* on three occasions in the one paragraph to convey the reaction. It is argued that on a standard feedback sheet this emotion would be edited out resulting in a less authentic comment. It is has been suggested (Nicol and Macfarlane-Dick, 2006) that authentic comments help the student understand the difference between his or her intentions and the effects.

A final observation concerns the ways in which the feedback comments lend themselves to capturing how tutors in the discipline (in this case Sociologists) think. For example one comment read:

> *"You also in the second part of the introduction talk about dictionary definitions of hooliganism. I know you get this from Joseph McGuire's work and Joseph McGuire is a highly reputable researcher in this field. But I think actually dictionary definitions aren't too useful in this case".*

What we have here is a declaration of the tutor's tacit knowledge (that Joseph McGuire is highly reputable). This making explicit tacit knowledge is a feature that appears throughout the feedback and is perhaps a spin-off of the increased quantity. Moreover we would argue that this helps in the creation of what has been labelled *guild knowledge* (Sadler, 1989). Put another way, we would argue that the feedback that is being constructed is conveying, in a subtle way, the meanings and discourses that characterise the discipline. The following comment illustrates this point:

> *"It did seem to me that the question would have warranted a bit more concentration on the structural perspectives that see society and the way in which society might be said to criminalize individuals as important counters to the individualizing perspectives that are more psychologically based, and that tend to dominate offending programs".*

In this case the tutor is encouraging the student to think like a sociologist (rather than a psychologist)

Time Spent on Task - Average time spent per script

We were aware that a key issue with this method of feedback would be how it compared in terms of staff time with other methods. We therefore asked the members of staff involved to keep a record of the amount of time they spent giving feedback both to the students using the audio method, and also to a similar number of students using the standard method. The results are shown in table 4. We are not sure how accurately staff recorded the time spent so we cannot claim that these figures are any more than a rather crude indication of the differences between each method. That said, they do seem to bear out the assertions of the staff that they found the audio method to be time consuming. Only one member of staff spent less time giving feedback using the audio method, and this difference appears to be negligible. The other three members of staff spent between 6 and 14 minutes more time giving audio feedback than they spent giving written feedback.

Table 4.   Mean time spent per script

Marker	Standard form (minutes)	Audio (minutes)
A	23	20 (-3)
B	39	53 (+14)
C	20	32 (+12)
D	54	60 (+6)

We cannot be sure that this difference is all or partly a consequence of the feedback method as there are other variables, such as the time taken to read an essay, which could make a difference. But given what staff told us about the need to review or re-record their comments, the method of audio feedback seems the most likely cause of the increase in time spent. It would be useful to repeat this exercise and attempt to record the amount of time spent on the different parts of the assessment and feedback process: reading the assignment: formulating comments: writing or recording them: editing or re-recording and so on. Without this information if is difficult to see where it might be possible to save time, although we make a few suggestions below.

Discussion

In making an overall assessment on the value of replacing written with audio feedback it is perhaps helpful to benchmark the audio form of delivery against the three dimensions of the National Student Survey that we highlighted in our introduction.

With regards the first of these, *receiving comments on work,* it is reasonable to conclude that feedback delivered in audio format does lends itself to generating a greater quantity, and by implication, more detailed feedback. This was certainly the case with all the markers. Indeed it may be the case that there is a quantity threshold beyond which any extra value to student learning is diminished.

In relation to helping students *clarify things they did not understand* we can be less conclusive. However our analysis has revealed a richer, more authentic kind of feedback being generated which may contribute to a better understanding of the discipline. Moreover the favourable students' comments that we received is an encouraging sign. Whether this is a result of the novelty of receiving their feedback in this way, or perhaps something more fundamental is a debatable point.

The final dimension, *feedback on my work has been prompt*, was not assessed in this study. However what we found was that none of the tutors experienced any kind of time saving, in contrast to the study by Ice et al. (2007). Clearly staff will not be keen to utilise this method of feedback if it is more time-consuming than other methods. Even an extra five minutes per assignment can mean another half days work on a module with 36 students. Part of the problem is undoubtedly due to staff unfamiliarity with this method of giving feedback. For all the tutors this was a new experience. Quite deliberately no staff development was provided prior to use beyond explaining how the technology worked. We wanted tutors to experiment through trial and error and find their own way of doing things. It might be that with practice the amount of time spent could be reduced. However there are other factors that may also be important.

The lack of a means to review and edit the comments easily meant that staff spent time pre-preparing their comments, reviewing them and perhaps re-recording the whole file again. We are looking at alternative methods of recording which may make the process of creating audio files easier for staff to undertake and remove the need to re-record a

whole set of comments. One possibility, (which we began to recognise during the project) would involve tutors recording smaller 'bite sized' extracts of feedback and inserting these files directly into the documents that the student had submitted. This can be done with Adobe Acrobat pdf documents, and while students would have to submit their assignments in this format, it would allow staff to link comments to particular parts of the assignment if necessary.

All of the assignments that we looked at in this project were part of the summative assessment for the modules concerned. The feedback therefore is not only concerned with suggesting ways in which the work could be improved, it is also justifying the grade awarded. It may be that in the less formal circumstances of formative assessment, staff would feel less apprehensive about giving audio feedback and would be more relaxed about giving 'off the cuff' advice without reviewing and re-recording it (which would not necessarily be less helpful).

Finally the lack of any inherent limitation on the length of the feedback in the audio files together with the enthusiasm of the staff members may have resulted in the provision of more feedback than would be the case under normal circumstances. The tutors had volunteered to take part, they were aware that they were only giving audio feedback to a small number of students and that their feedback would be scrutinised more closely than usual by their students and by colleagues.

So there may be a need to give guidance about the amount of time spent on giving audio feedback if this method is to have wider application. It may help if tutors are reminded that five minutes will produce about 500 words of good quality feedback, much more than they would be able to write in the same amount of time. And, although the students were impressed with the amount of feedback they received, those receiving the longest amounts of feedback were not necessarily more pleased than the ones receiving the shortest amounts.

Conclusions

This study set out with the intention of exploring the potential of using audio files as a

way to give feedback on student assignments at the University of Liverpool. While the findings from the small sample are unlikely to be representative of all staff and students, we do consider the practice examined in this case (i.e. giving feedback on essays) is typical of what goes on in most Social Science disciplines. With this in mind, we do believe that audio feedback can be used successfully to meet student feedback expectations. These expectations can be met through feedback which has the potential to be more personal, more in-depth and we would argue more engaging. We see the application of this type of feedback to have particular relevance in a formative context. However for these benefits to be achieved, we recommend that a number of conditions would need to be met prior to rolling out this approach – be this at the University of Liverpool or elsewhere. Chief amongst these conditions would be meeting the concerns of staff through the provision of 'easy to use' technology and appropriate staff development support. Indeed this is how we plan to proceed at the University of Liverpool and efforts are already underway in the provision of training events for staff, the development of good practice guidelines and appraisals of alternative technologies.

Finally, this study, while developing our understanding in some areas, not surprisingly has raised new questions in others**.** Indeed one limitation of our investigation concerns the fact that while the participating students (in the main) seemed to appreciate the feedback they received, we can only speculate at present as to whether their learning has been enhanced. Moreover we have not explored the impact of audio feedback on different kinds of learners, or indeed considered any accessibility issues when using this form of technology. Larger, more sophisticated research studies would be needed for these purposes, but these are areas considered worthy of further investigation.

Acknowledgements

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Appendix 1: Focus Group Discussion Topics

Student Focus Group

- Current attitudes towards and experiences of receiving feedback

- Reasons for participation in project

- Thoughts on receiving feedback via audio files

- Listening behaviour

- Aspects that might be done differently

- Overall comparisons with alternative feedback approaches

Tutor Focus Group

- Current feedback practice and experiences

- Reasons for participation in project

- Thoughts on providing feedback via audio files

- Recording behaviour

- Aspects that might be done differently

- Overall comparisons with alternative feedback approaches