



Recorded audio feedback: bridging the chasm between educator and student in online assessment

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Provision of detailed and constructive feedback on written assessments is a challenge in many contexts. Increasing instructor workloads due to growth in class sizes further complicates having personalised feedback to student achievements. This paper reports using recorded audio feedback on written assessments and evaluating student perceptions of this feedback using a mixed methods approach. Students receiving recorded audio feedback were surveyed and their perceptions towards the feedback they received further probed via semi-structured interviews. Survey numerical data indicate that students found the feedback convenient and easy to access, clear and easy to understand and more personal than written feedback. Survey open responses and interview responses were thematically analysed and identified major themes and subthemes that supported and further explained the numerical data. This study helps describe student perceptions to recorded audio feedback, which may be a useful tool for helping connect instructors and their students in different learning environments.

Keywords: Audio feedback, assessment, online learning, higher education

Introduction

Feedback is a critical element of learning and assessment that broadly describes the degree to which students have met learning outcomes or assessment criteria. Previous work by Boud and Molloy (2013) highlights the importance of feedback, and proposes that feedback should be timely and tailored to their individual performance. Boud (2010) further states feedback should be specific, provide actionable suggestions for improvement and support future tasks that build on the skills or knowledge being assessed. These requirements suggest that providing personalised feedback to students is important for supporting their academic development. However, increased pressure on instructors due to factors that include massification of class sizes and transitioning to online learning can make providing individualised feedback more challenging (Henderson et al., 2019). Both resource limitations and other challenges emerging in response to the COVID-19 pandemic have pre-empted a need for strategies to maintain effective feedback under these conditions.

Audio feedback has been implemented across different countries and disciplines in higher education and shows promise as either an alternative or a supplement to traditional written formats. A recent survey of 4514 Australian university students describe that audio feedback is considered more personalised than written feedback (Ryan et al., 2019), a finding echoed by other smaller studies (Morris & Chikwa, 2016). Furthermore, studies also report that audio feedback provides a quantitatively greater amount of feedback relative to written feedback (Cann, 2014; Nemeč & Dintzner, 2016). This is generally echoed by Carruthers et al. (2015), who described that audio feedback is perceived by students as being more detailed. The language utilised in audio feedback may also be different to written feedback, as Nemeč and Dintzner (2016) note that audio feedback incorporated significantly fewer words associated with negative emotions, and significantly more certainty words and words associated with cognitive process. Despite these advantages however, several limitations have been noted in implementing audio feedback.

Studies of audio feedback have highlighted some considerations and conflicting results which should be addressed. Multiple studies have been unable to determine any impact of audio feedback on improving student academic performance relative to written feedback (Chalmers et al., 2014; Morris & Chikwa, 2016). Other studies have attempted to determine whether providing feedback via recorded audio saves instructor time relative to written feedback. Evidence of audio feedback taking longer, the same time and a shorter period have been noted (Cann, 2014; Carruthers et al., 2015; Lunt & Curran, 2010). Aside from differences in workload, some authors have also highlighted technological implications in incorporating audio feedback (Hennessy &

Forrester, 2014). Different approaches for delivering the feedback to students, including recording directly into a virtual learning environment, recording locally and emailing the student, or uploading to a cloud-based server, all have time and cost implications for instructors. Depending on how this feedback is delivered, students may be unable to copy audio recordings or export these from the server hosting the file, limiting the ability of students to refer to the feedback in the future. Similar to written feedback, providing a consistent quantity and quality of audio feedback across large cohorts may also be difficult when multiple markers are involved.

Study aims

This project aimed to evaluate student perceptions towards audio feedback. Specifically, this study aimed to explore how students perceived recorded audio feedback in regard to the amount of detail, accessibility and whether recorded audio feedback was perceived as more personal than written feedback.

Methodology

An explanatory, sequential mixed methods approach was used in this study, in which both quantitative and qualitative data collection and analysis techniques were chronologically undertaken over two parts. Recorded audio feedback was utilised in two undergraduate subjects over a two-year period at a metropolitan Australian university. In both subjects, recorded audio feedback was provided as part of a 1000-word written assessment. The assessment was submitted using Moodle, the university's learning management system (LMS), and both grades and feedback were provided using an embedded Turnitin module (<https://turnitin.com>). Recorded audio feedback was provided using the instructor recording function of Turnitin, with audio recordings made using either a headset or internal laptop microphone. Students were also provided with non-personalised written feedback using the QuickMarks function of Turnitin Studio.

Following the release of student grades and feedback, students receiving recorded audio feedback were sent an anonymous survey. The survey incorporated nine questions that asked students to rate their level of agreement using a 5-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree") and three open response questions. A cohort of students (N=4) recruited in-class were interviewed using a semi-structured interview conducted online using Zoom. Recruitment for interviews and the interviews themselves were conducted by an academic who was not involved in subject teaching, coordination or grading to minimise potential bias of responses. Participation in the survey and interviews was voluntary. Survey open response questions and transcripts of semi-structured interviews were thematically analysed as described by Braun and Clarke (2006). Survey responses and interview transcripts were analysed using a semantic, inductive approach, whereby codes were identified based on explicit meanings in qualitative data without reference to previous research. Ethics approval was provided by the institutional human ethics committee under project HEC20520 prior to data collection.

Survey responses

Recorded audio feedback was implemented in two subjects from 2021 to 2022. Following the release of grades and feedback for the subject, students who received recorded audio feedback in both subjects were sent an anonymous survey. The aggregated response rate of the survey for both subjects was 23% (n =135). The aggregated results of the Likert scale items of the survey are presented in Table 1.

Five of the survey items queried student agreement with different aspects of the recorded audio feedback they received compared with written feedback. A relatively small proportion of students indicated they were less likely to access audio feedback or to incorporate audio feedback in their work (42.9% and 54.3% respectively). However, this did not appear to be due to an unwillingness to access and incorporate audio feedback, but instead that there was no detected difference between written feedback (37% and 34% neither agree or disagree). In contrast, students found the recorded audio feedback they received relatively more detailed and more personal than written feedback, with total agreement for both survey items >65%. In total, 68.6% of students preferred receiving recorded audio feedback to written feedback and 91% were satisfied with receiving recorded audio and generalised comments (QuickMark) as their feedback format.

Table 1: Summary of survey Likert scale responses

Survey Item	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Percentage agreement ¹
I was more likely to access the audio feedback I received than written feedback	0	7	13	10	5	42.9%
I was more likely to incorporate the audio feedback I received than written feedback into my work	0	4	12	16	3	54.3%
I found the audio feedback I received convenient and easy to access	0	0	1	14	20	97.1%
I found the audio feedback I received more detailed than written feedback	0	3	9	8	15	65.7%
I found the audio feedback I received clear and easy to understand	0	1	1	16	17	94.3%
I found the audio feedback I received more personal than written feedback	0	1	1	10	23	94.3%
I preferred the audio feedback I received to written feedback	1	4	6	15	9	68.6%
Overall, I was satisfied with having audio feedback and generalised comments as my feedback format.	0	2	1	16	16	91.4%
In future, I would like audio feedback used in other assessments or subjects.	1	1	6	18	9	77.1%

¹Percentage of students who either agree or strongly agree with the survey item

Thematic analysis

The survey included three open response questions; *In your opinion, what were the main benefits or advantages of audio feedback*, *In your opinion, what were the main drawbacks or disadvantages of audio feedback*, and *Please leave any other comments below*. Responses to these questions and transcripts of semi-structured interviews were thematically analysed. An initial set of 15 themes were developed from the responses, which were further condensed to 4 main themes split into 9 subthemes, as shown in Table 2.

Table 2: Thematic analysis of survey open responses and interview transcripts

Theme	Subthemes	Subtheme description	Codes (n) ¹
Proximity	Personalisation	Comments mentioning audio feedback being “personal” or “personalised”	24
	Emotional response	Comments mentioning any emotion reaction (positive or negative) to audio feedback	18
Cognition	Understanding	Comments mentioning improvements/difficulties in understanding audio feedback	15
	Recall	Comments mentioning improvements/difficulties in recalling audio feedback	3
Feedback Quality	Detail	Comments mentioning increases/decreases in detail or amount of feedback provided through audio	29
	Grade justification	Comments relating audio feedback provided to grades	8
Delivery	Practicality	Comments mentioning practical implementation of audio feedback framed through time constraints	21
	Navigating feedback	Comments describing ease/difficulty in finding where in written work feedback relates to	10
	Accessibility issues	Comments mentioning issues in accessing feedback due to hearing impairment	9
	Technology issues	Comments mentioning issues in accessing or interpreting feedback due to technology requirements	5

¹Number of codes from subtheme applied to dataset (n = 143)

The thematic analysis, similar to the survey Likert scale questions, identified a number of aspects of recorded audio feedback that appear overrepresented in the survey open response and interview transcript data. The

personalisation, emotional response, understanding, detail and practicality subthemes collectively account for >75% of coded responses. Due to space limitations, we have opted to focus our discussion of the data on these 5 subthemes.

Personalisation

The personalisation subtheme is one of the strongest identified in the survey open response and interview data. This seems fitting, given that the survey item relating to audio feedback being more personal had 94.3% agreement. In many cases, references to this subtheme were also coded to the emotional response, understanding subthemes or amount/detail subthemes.

It was a lot more, I guess, like personal or something. But because I usually just get written feedback and I feel like, listening to someone talk about my work was a lot more like easier to pick up. And I felt like it wasn't just ticking boxes, it was [instructor] as a person, like, responding back to my work. So I felt like [they] knew what was going on and then was able to explain it really well. The pros and cons of what I could improve on and everything. (Interview participant)

Emotional response

The emotional response subtheme was particularly interesting to note, and often touched on the topic of student anxieties in receiving grades and feedback.

I feel that audio feedback felt less condescending than regular written feedback, not being able to hear the tone of the feedback personally made it feel a little condescending. I find great anxiety in reading feedback rather than hearing it. (Survey response)

Understanding and Detail

The understanding and detail subthemes were frequently coupled, with some participants stating that feedback was 'easy to understand' as well as being 'detailed' or 'nuanced'. Deeper explanation for why participants felt this way was generally not provided, however some participants mentioned that the verbal feedback felt more constructive and that it was easier to identify areas for improvement. Many participants also mentioned that the recorded audio feedback had a 'greater depth' or was 'more comprehensive'.

I had feedback that I could actually work with. I have literature reviews to do this semester and I felt as though I know where I went wrong and how I can improve. And what I don't as need to improve on as much from last semester. Whereas often in the past with written feedback it just leaves my mind. I sort of read it, see the mark, and it's not much of a learning experience. (Interview participant)

Practicality

This subtheme overall was broader than the other subthemes and was generally demonstrated by participant comments relating to implementation of the audio feedback by the instructors. Multiple participants commented that they would expect feedback to be faster or easier for instructors to provide in this format. Interestingly, one participant also commented that there might be a 'higher chance at a marker withholding as much negative feedback as they might normally supply'. Drawing conclusions from this subtheme is difficult given the range of responses, but it potentially highlights the different expectations that students might have of instructors in trialling new feedback approaches.

Discussion

This study adds further dimension to existing literature regarding student perceptions of feedback and considerations for how recorded audio may be received. A large Australian-based study of both staff and students conducted by Henderson et al. (2019) identified fourteen perceived challenges to providing effective feedback. Major themes identified included specificity and volume, with staff and students describing challenges in providing more and tailored feedback (Henderson et al., 2019). It is noteworthy that in the study by Henderson et al. (2019), 18% of students expressed desire for richer feedback modes, including face to face and audio recordings. Our study complements these findings, with a majority of students in the survey Likert responses expressing a preference for audio feedback to written feedback and would like to see audio feedback

used in other assessments and subjects.

Student anxieties in assessment have been previously identified. Falchikov and Boud (2007) suggest that negative emotional responses in assessment can have profound and long-lasting consequences for the personal and academic development of the student. Our data identifying the emotional response subtheme would indicate that recorded audio feedback has the potential to modulate student negative emotions when receiving feedback. It is plausible that additional emotional information conveyed by the instructor's tone of voice helps 'soften the blow' of receiving critique. This aspect was occasionally linked to the personalisation and understanding subthemes, with participants mentioning that having an improved understanding of the feedback or connection to the instructor was reassuring. We believe that this additional emotional connection to the instructor may be beneficial to promote student feelings of belonging within the subject, and will aim to explore this aspect further in future studies.

We acknowledge that this study had several limitations. The most significant limitation being that students could not directly compare recorded audio feedback to written feedback within the same subject, as only one written assessment was incorporated in each subject. Furthermore, relative to the number of students receiving audio feedback and being surveyed, the number of survey respondents and the number of interview participants was small. Multiple instructors were also involved in grading and providing feedback, with the format and length of each audio feedback recording not being controlled for.

Conclusions

Implementing effective feedback strategies is critical to informing students of their academic progress and achievement, in addition to supporting future development. Use of recorded audio feedback has the potential to improve the quality of feedback through increasing the personalisation of feedback to individual students. This may improve the connection between instructor and student, fostering a greater sense of belonging within the student cohort and broader institution.

References

- Boud, D. (2010). *Assessment 2020: Seven propositions for assessment reform in higher education*. Sydney, Australia: Australian Learning and Teaching Council Retrieved from https://www.uts.edu.au/sites/default/files/Assessment-2020_propositions_final.pdf
- Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: the challenge of design. *Assessment & Evaluation in Higher Education*, 38(6), 698-712. <https://doi.org/10.1080/02602938.2012.691462>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Cann, A. (2014). Engaging Students with Audio Feedback. *Bioscience Education*, 22(1), 31-41. <https://doi.org/10.11120/beej.2014.00027>
- Carruthers, C., McCarron, B., Bolan, P., Devine, A., McMahon-Beattie, U., & Burns, A. (2015). 'I like the sound of that' – an evaluation of providing audio feedback via the virtual learning environment for summative assessment. *Assessment & Evaluation in Higher Education*, 40(3), 352-370. <https://doi.org/10.1080/02602938.2014.917145>
- Chalmers, C., Maccallum, J., Mowat, E., & Fulton, N. (2014). Audio feedback: richer language but no measurable impact on student performance. *Practitioner Research in Higher Education*, 8(1), 64-73. <https://ojs.cumbria.ac.uk/index.php/prhe>
- Falchikov, N., & Boud, D. (2007). Assessment and emotion: the impact of being assessed. In D. Boud & N. Falchikov (Eds.), *Rethinking assessment in higher education: learning for the longer term* (pp. 144-158). Taylor & Francis. <https://doi.org/10.4324/9780203964309>
- Henderson, M., Ryan, T., & Phillips, M. (2019). The challenges of feedback in higher education. *Assessment & Evaluation in Higher Education*, 44(8), 1237-1252. <https://doi.org/10.1080/02602938.2019.1599815>
- Hennessy, C., & Forrester, G. (2014). Developing a framework for effective audio feedback: a case study. *Assessment & Evaluation in Higher Education*, 39(7), 777-789. <https://doi.org/10.1080/02602938.2013.870530>
- Lunt, T., & Curran, J. (2010). 'Are you listening please?' The advantages of electronic audio feedback compared to written feedback. *Assessment & Evaluation in Higher Education*, 35(7), 759-769. <https://doi.org/10.1080/02602930902977772>

- Morris, C., & Chikwa, G. (2016). Audio versus written feedback: Exploring learners' preference and the impact of feedback format on students' academic performance. *Active Learning in Higher Education*, 17(2), 125-137. <https://doi.org/10.1177/1469787416637482>
- Nemec, E. C., & Dintzner, M. (2016). Comparison of audio versus written feedback on writing assignments. *Currents in Pharmacy Teaching and Learning*, 8(2), 155-159. <https://doi.org/10.1016/j.cptl.2015.12.009>
- Ryan, T., Henderson, M., & Phillips, M. (2019). Feedback modes matter: Comparing student perceptions of digital and non-digital feedback modes in higher education. *British Journal of Educational Technology*, 50(3), 1507-1523. <https://doi.org/10.1111/bjet.12749>

Tsatsaronis, J. A., Binger, K. J. & Durand, F. M. (2022). Recorded audio feedback: bridging the chasm between educator and student in online assessment. In S. Wilson, N. Arthars, D. Wardak, P. Yeoman, E. Kalman, & D.Y.T. Liu (Eds.), *Reconnecting relationships through technology. Proceedings of the 39th International Conference on Innovation, Practice and Research in the Use of Educational Technologies in Tertiary Education, ASCILITE 2022 in Sydney*: e22150. <https://doi.org/10.14742/apubs.2022.151>

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