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Assessment for “Digital First Language” Speakers: Online Video Assessment and Feedback in Higher Education

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While feedback has been highlighted as the most powerful influence on student achievement, Weaver (2006) noted that up to 40% of tertiary students lack confidence in their feedback and many students express dissatisfaction with this aspect of their student experience (Rodway-Dyer, Dunne, & Newcombe, 2009). Chasms remain between academic feedback and student feed forward outputs, as research suggests that feedback is undervalued by “unresponsive” tertiary students due to misunderstanding, inconsistencies and lack of clarity, and that feedback is not as effective as staff imagine. This paper explores student and staff perceptions of a video feedback model for tertiary institutions. Each student received feedback in the form of an individualized video which was made available online, thus mirroring the established course assessment processes. A mixed methodology study revealed a mass preference for video feedback, with participants noting that video feedback personalized assessment processes and enhanced understanding. In excess of 90% of students rated video feedback as more valuable than written feedback, with 74% completely understanding the feedback provided by the marker, showing that technology may “provide the innovative edge that can help students engage more effectively with their feedback” (Crook et al., 2012, p. 387).

Literature Review

In a meta-analysis of over 1,000 studies, Hattie (2009) concluded that formative assessment and feedback are among the most prevailing influences on student achievement. According to Ramsdem (2003), it is “impossible to overstate the role of effective comments on students’ progress in any discussions of effective teaching and assessment” (p. 187). Nevertheless, a raft of literature suggests that students are unwilling, or unable, to utilize the feedback they receive to enhance their subsequent learning (Chanock, 2000; Clements, 2006; Nurmukhamedov & Kim, 2010). Indeed, Walker (2009) highlighted that almost 30% of students “lack understanding” of feedback and require further clarification or detail, with Weaver (2006) confirming that up to 40% of students lack confidence in their feedback.

While Weaver (2006) uncovered limited empirical research focusing on student perceptions of feedback, it is clear that feedback is not as effective as staff imagine (Carless, 2006; Orsmond & Merry, 2011). In particular, the feedback received by students may be vague, unclear, inconsistent and lacking in guidance (Glover & Brown, 2006; Weaver, 2006). Weaver (2006) reported that tutor comments were not always helpful and were not always related to the assessment criteria or the mark received. According to Biggs (2003), this may be a symptom of tutors not adopting a student-centered approach in providing feedback and commentary that is perceived as relevant by students. Thus, it appears that many students may be unable to see the potential value of the feedback they receive in enhancing their subsequent performance.

Research conducted at the University of Reading identified numerous concerns with written feedback,

including time inefficiencies for staff, issues with the timeliness and quality of the feedback received, and student disconnection (Crook et al., 2012). Even when effective feedback is presented, there remains concern regarding student connectedness (Duncan, 2007). Anecdotal evidence indicates that high numbers of students give scant attention to feedback and are more interested in grades (Weaver, 2006). While some students may be reticent to engage with the feedback, others do not collect assignments and review feedback at all (Carless, 2006; Mutch, 2003). Yet other students are less satisfied with the feedback they receive compared to other facets of their student experience (Rodway-Dyer et al., 2009). Evidently, having invested emotionally in assignments, students may anticipate a healthier investment return (Higgins, Hartley, & Skelton, 2001).

Campbell (2005) argued that academics should achieve basic skills in “rich media” because it is the language that students of the current generation understand and use. Prensky (2005) called these students “digital natives” and suggested that it is important to find new ways to motivate them. According to Crook et al. (2012), technology may “provide the innovative edge that can help students engage more effectively with their feedback” (p. 387). Yet, given the potential advantages of using technology to provide feedback to students presented by the digital age, this remains an under-researched area in higher education (Weaver, 2006).

When considering alternatives to current models, much focus falls on audio feedback, although video feedback is emerging as a prospective exponent of deeper, richer and more significant commentary. Advocates of video feedback, Thompson and Lee (2012), remain uncertain of the effectiveness in

improving student performance, and concluded that no research has yet shown how video feedback can be used as a tool to improve learning. Despite this, Thompson and Lee (2012) stated categorically that the majority of students perceived that they understood video comments in a more meaningful way than written comments.

Northcliffe and Middleton (2008) found that students preferred to receive audio feedback and that providing this form of feedback was less stressful and time consuming for staff. Orsmond and Merry (2011) also found that students appreciated audio feedback, considering it to be of good quality, easier to understand, more in-depth and more personal than written feedback. In addition, staff found it easier to explain more complex ideas and to highlight specific points.

Rodway-Dyer et al. (2009) explored the use of digital audio and video to provide feedback to students in three subject areas (bioscience, geography and medicine) at the University of Exeter. In geography, audio feedback was provided on written assignments to help students become aware of the relationship of feedback to future assessed work. Audio feedback was provided via mp3 file, alongside a written feedback form. Over 80% of students considered both audio and written feedback to be useful or very useful. The main advantage of audio feedback was considered to be greater detail and depth and that it was clearer and easier to understand (Rodway-Dyer et al., 2009). However, the findings from 141 bioscience students who received video feedback were less clear, with much of this being attributed to the laboratory setting.

According to Abrahamson (2010), video provides a visual medium to allow demonstrations and provides a permanent record which can be replayed at the students' convenience. Bertolo, Carlton, and Jones (2012) explored the use of videos to provide exam feedback for questions on logic and control systems at Canterbury Christ Church University. The team concluded that video podcasts could be a feasible alternative to present the material in a more attractive and engaging way.

Crook et al. (2012) explored whether using technology to provide feedback in the form of a brief video had the potential to enhance the feedback experience for both staff and students. The use of video was found to resolve many of the common problems associated with feedback, including the quality of the feedback obtained and the level of student engagement. Seven out of the eight members of the staff who completed the post-use survey enjoyed using video, and all said they would consider using video again for feedback provision (Crook et al., 2012). Staff also identified several advantages of using video feedback, namely that videos could be re-viewed, were accessible,

were like one-to-one sessions, and that students took more notice of them. Each video took most staff members less than 10 minutes to produce, and most staff found that this was a similar amount of time to other methods of feedback provision. The main advantages of video feedback that were cited by students were that feedback was easier/clearer to understand compared to other methods of providing feedback (e.g., written or oral) and that feedback was more extensive, informative, the key points were better emphasized, and that it aided their visualization of the task. It appears, therefore, that video feedback may address the concerns expressed by Weaver (2006) pertaining to feedback not relating to the mark received or assessment criteria. A significant finding was that 80% of students reported liking the use of video feedback after experiencing it, although it was considered the least preferred method of feedback prior to their use of this method (Crook et al., 2012).

Although most reviews of the use of screencasting in the classroom have been positive, a recent study in the field of computer science found that screencasts had no significant effect on learning (Lee, Pradhan, & Dalgarno, 2008) and another (Agarwal, 2011) has uncovered pedagogical challenges of integrating screencasting (Palaigeorgiou & Despotakis, 2010). There has been debate about how long web-based videos should be (Agarwal, 2011; Scott, 2009), but the need for concision and clarity remains vital for both student and instructor.

Video technology also has the potential to improve opportunities for students to benefit from feedback that is remotely accessible or that they might otherwise miss; this could be especially beneficial for part-time, overseas or distance learners. Given the potential advantages of utilizing technology to provide multimodal (e.g., audio and video) feedback to students, there appears to be a significant dearth of literature in this area. The proposed research will therefore explore student perceptions of online video feedback as a means of enhancing student experiences and attainment.

Research Aims

This research project sought to investigate staff and student perceptions of online video feedback as an alternative to existing models of written feedback in an undergraduate teacher education course at an Australian university. Specifically, the researchers were eager to ascertain whether online video was perceived as a superior—and time efficient—vehicle for providing students with comprehensive explanatory feedback. The study monitored both tutors' and students' attitudes towards the provision of online video feedback over one semester to determine the benefits and limitations

associated with this feedback model. The research seeks to improve the perceived clarity and student understanding of the feedback provided to undergraduate students by their tutors as illustrated in Figure 1.

As this innovative, and under-researched, mode of feedback was new to tutors and students the research team were keen to investigate the time efficiency of this technique from a staff perspective amidst concerns that the process may be onerous and could, potentially, increase workload with negligible effects other than novelty factors. The study explored student feedback preferences across a range of ages and abilities and investigates the effectiveness and manageability of a method for providing expansive video marking feedback on assessed work at tertiary level to support feed forward strategies. In summary, this research presents insight into the application and validity of a transferable online video feedback model for tertiary education.

Methodology

Participants and Settings

Potential participants were drawn from third-year undergraduate students enrolled in ICT1250: Multimodal Approaches to Teaching and Learning, a core unit in the Bachelor of Education (Primary) course at Edith Cowan University in Western Australia during the second semester of 2012. Participants were aged between 19 and 61 years at the time of the research, with a median age of 21 years. All students received feedback in the form of an individualized 6 to 12 minute real-time video recording for each of their two assessed submissions. The video showed a live screen

capture of the students' work being marked against the assessment rubric together with audio narration by their tutor. Participants were invited to independently complete two anonymous online questionnaires at a time and place of their choosing and focusing on their individual perception of the employment of online video as a modality for receiving assignment feedback.

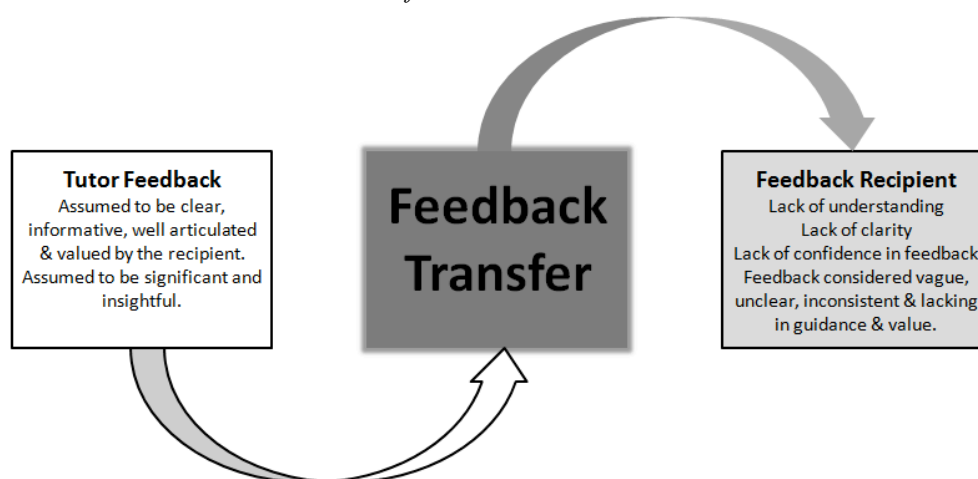
Instrumentation

All students receiving video feedback were invited to complete the two, aforementioned, online questionnaires. The initial questionnaire sought students' perceptions of the feedback they had received on a mid-unit assessment and asked for comparisons relating to written feedback. The second questionnaire was completed after the final unit assessment in order to identify any changes in perception/data. The questionnaires were developed using cloud technology and accessed via links posted on the University's virtual learning environment (i.e., Blackboard). The two questionnaires asked the same questions post the two assessment and feedback junctures in the unit.

The first four items elicited student demographic data such as age, gender, and average course grade as well as establishing the time invested reviewing feedback. This was deemed as fundamental in providing the researchers with data to establish potential trends among particular demographics as it may have been possible, for example, that higher achieving students were more likely to commit time to responding to the questionnaire which would skew data sets.

Items five to seven were scored on a 5-point Likert scale and inquired whether students invested more (+2) or less (-2) time reviewing video feedback than they

Figure 1
Feedback Transfer Between Tutors and Students



generally would for written feedback, if video feedback was more or less likely to enhance their future work, and if they considered video feedback more or less valuable than written feedback. Students were also asked to select their preferred feedback modality (i.e., written, audio, video or unsure). Subsequently the questionnaire asked students how well they considered that they understood what the marker/tutor was attempting to communicate on a scale from -2 (*not at all*) to +2 (*completely*). Finally, students were offered the opportunity to provide any additional comments regarding their experience with video feedback.

Procedure

Prior to the deployment of the online surveys, students had received video feedback on their assessed submissions. Each student was provided with an individualized video recording consisting of a live screen capture of the text highlight tool being used to mark the student's work against the assessment rubric used by tutors and provided previously to all students.

A real-time screen recording allowed the tutor to provide expansive explanations during the marking process during which the student's assignment and rubric were displayed on screen, while the assessing tutor talked through the process of assessing the work. The assessing tutor explained the rationale for marks awarded and highlighted the rubric to denote where marks were achieved or lost.

The video recordings were then uploaded by tutors using the Camtasia Relay software, and students were emailed their returned assignments as soon as assessment was completed with a hyperlink that enabled them to view their individual feedback using online streaming video. This provided a timely and paperless solution to providing feedback that can be accessed anywhere at any time on a myriad of mobile and Internet capable devices.

Online questionnaires were made available to students shortly after they received their first video feedback. This yielded a total of 59 responses from a possible 111 questionnaires, and a second questionnaire at the unit conclusion returned 31 responses. The data obtained from these questionnaires was then analyzed to identify key themes and issues pertaining to the provision of video feedback.

Ethical Considerations

Permission to conduct this study was obtained from Edith Cowan University's Human Research Ethics Committee. The research study conforms with the protocol for non-clinical projects involving human participants.

Research Findings

A total of the 46 females and 13 males completed the first online questionnaire. Female participants spent between 0 and 30 minutes reviewing their video feedback ($Mdn = 8$ min.), while males spent between 4 and 45 minutes ($Mdn = 10$ min.). There was no significant difference in the time spent reviewing feedback according to gender and also no significant correlation with age ($r = 0.039$). A similar pattern of responses was obtained from the second questionnaire, which was completed by 31 participants (21 females, 10 males). However, the time invested in reviewing feedback increased in median time to 12 minutes for both male and female participants.

Participants were asked to score on a 5-point scale whether they felt they spent more (+2) or less (-2) time reviewing the video feedback than they would normally spend reviewing written feedback. Mean ratings and the associated standard deviations are presented in Table 1 for the first dataset retrieved from questionnaires.

Table 1
First Dataset Retrieved from Questionnaires

Questionnaire item	Female ($n = 46$)		Male ($n = 13$)		Total ($n = 59$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Did you spend more time reviewing your video feedback than you would normally do when reviewing written feedback?	1.09	(0.94)	1.38	(0.87)	1.15	(0.93)
Do you feel that the video feedback will enhance future work more or less than written feedback?	1.48	(0.62)	1.23	(0.73)	1.42	(0.65)
Did you find the video feedback more or less valuable than written feedback?	1.65	(0.67)	1.38	(0.77)	1.59	(0.70)

Key Themes

Six emergent themes arose from the data provided by students: student engagement, personalization of feedback, understanding of feedback, value of feedback, application of feedback, and feedback preferences. Each of these themes is discussed in further detail below.

Student engagement. There was strong consensus among both males and females, with 75% of participants indicating that they spent more time reviewing the video feedback in the initial questionnaire, which increased marginally to 77% on second questionnaire. Just 5% of participants indicated that they spent less time reviewing the video feedback. Sample student comments reflecting this were: “The feedback provided was insightful. . . . I also spent a lot more time on reviewing the assignment myself . . . it is 100% better than written feedback!” (Female, 22). “You feel that you are part of [the] marking process. . . . I did spend more time viewing the video . . . and will definitely be viewing it from time to time” (Female, 60).

Personalization of feedback. Other respondents ($n = 11$) commented on the personal and motivating nature of the individualized video feedback: “It was so much more personal and I could really tell what my marker thought of my work. I could see why I got the grade I did.” Another student explained, “it was like a discussion.” Students found the provision of video feedback more personal than traditional written feedback. This was exemplified in the following comments: “it was so much more personal watching the video rather than just reading the written feedback” (Female, 22) and “I found it to be personal and extremely helpful with understanding my strengths and weaknesses in the task” (Female, 21).

Understanding of feedback. Participants were asked to rate how well they felt they understood the feedback provided by their markers on a 5-point scale from -2 (*not at all*) to +2 (*completely*). Results were rescaled to give a score between 0 and 1, and yielded a mean rating of 0.86 ($SD = 0.16$). Responses to this item were uniformly positive, with a range of positive comments ($n = 34$) suggesting the feedback was “very clear, very relevant, and very helpful.” Only one student rated their level of understanding at less than 4 out of 5, which, alone, provides very positive justification for the consideration of video feedback. In the second round of data collection 100% of participants indicated that their understanding of the video feedback was greater than or equal to that for written feedback with 74% responding that they “completely” understood what the marker was trying to communicate. Qualitative data confirmed student perception in this area through statements such as:

“Video feedback was really good compared to written feedback which has no real explicit explanation” and “Feedback was constructive and easy to understand” and “I now understand how we got these marks.”

Value of feedback. There was also strong agreement that video feedback was more valuable than written feedback, with 92% of participants giving a positive response to this item in the first questionnaire and 90% confirming this in the second questionnaire. Students commented that the video feedback had more depth ($n = 18$) and was easier to understand ($n=14$), one being “amazed at the depth of information that could be gained from viewing (video) feedback.” While four students considered the two forms of feedback to be of equal value, just one respondent rated written feedback as more valuable. Interestingly, the latter reflection was not repeated after the second round of video feedback, although the researchers cannot ascertain whether the participant responded to both questionnaires to confirm and shift in thinking: “I thought that the video feedback was very beneficial as it explained more about what I did wrong and right rather than reading a comment and not knowing what the marker means” (Female, 22) and “30 seconds of talking is approx. 100 words—think of how much MORE feedback a video will give you” (Male, 21).

Application of feedback. In responding, 92% of participants believed that video feedback would enhance their future work more than written feedback with students revealing the following: “Seeing the assignment marked will definitely improve my assignments” and “It will help me improve in the future!” The remaining 8% of responses were neutral, with no students rating written feedback as more likely to enhance their future work. Students informed the researchers that the video feedback, “Literally showed us where to improve” and “Gave [us] a better understanding. . . . With this feedback I will be more inclined to do better in areas of weakness.”

Based on their experience with video feedback, students were asked whether written or video feedback was most helpful in improving their work. Of the participants in the initial questionnaire sample ($n = 59$), 95% regarded video feedback as most helpful in improving their work, with just three choosing written feedback. Comments drawn from questionnaires suggest that students believe video feedback is motivating and will impact on improving subsequent work across academic disciplines ($n = 12$). However, some of these comments may reflect the range of generic/transferable skills developed in the multimodal teaching and learning unit that lend to other areas of study particularly well. Similarly, 97% of students stated that video feedback was most helpful in improving their work in response to the second questionnaire, although, the researchers note that the

sample was smaller in the second dataset ($n = 31$). A recurrent theme in comments received from students is that the feedback provided could help to improve their subsequent work: “I liked that I was given an explanation of why I got the mark I received and that you gave examples of what we could have done to get to the next level” (Female, 24).

A number of students’ comments also revealed that video feedback provided further, beneficial, insight into the assessment process: “Having the lecturer mark your work in front of you and give you reasons for their decisions is much more helpful than just a comment on the side saying ‘great work’” (Female, 25) and “I was able to understand [the tutor’s] true thoughts about my assignment, instead of the general written response, . . . I was given several meaningful statements of how I could have improved” (Female, 20).

Feedback preferences. Finally, students were asked whether they would prefer to receive feedback in written, audio or video form. Overall, 92% of participants regarded video feedback as their preferred method of feedback, with just two students preferring written feedback and three students being unsure. In the second questionnaire, 87% of participants expressed a preference for receiving video feedback, representing a drop of 5%, although this was not reflected in the comments provided by students to supplement the questionnaire responses: “It was really good to see how a tutor marks our assignment. . . . [I] wish that more tutors used this technique” (Female, 21) and “I think that the video feedback is amazing. . . . I have not experienced it until now but I would like to experience nothing less!” (Female, 22). Staff who provided the video feedback were insider researchers, but the consensus was that feedback of this nature took no longer to provide than written feedback despite the large numbers involved ($n = 90$).

Discussion

A common theme in the research literature is that tertiary students appear unwilling or unable to respond to feedback effectively (Chanock, 2000; Clements, 2006; Nurmukhamedov & Kim, 2010) or that feedback is often lost in translation from assessors to students (Carless, 2006; Orsmond & Merry, 2011). The present study sought to address these issues by exploring the provision of individualized online video recordings as an alternative feedback model. To date few studies have explored student perceptions of video as a feedback mechanism.

The data reveals that video feedback was viewed extremely favorably by students, although this may have been due, in some part, to the novelty of the approach and the accompanying Hawthorne effect. It should also be acknowledged that the results reported

here reflect student perceptions of the feedback they received. Furthermore, caution should also be applied to a degree in generalizing the results of this individual study, which reinforces the need for further research in this area.

Student Engagement

Having provided students with comprehensive online video feedback, it remained to be seen if this had the potential to overcome the “buy in” or “connectedness” hurdles noted by other researchers in this area (e.g., Crook et al., 2012; Duncan, 2007; Weaver, 2006). The researchers were acutely aware that the transfer conduit of feedback was, possibly, the most difficult and uncertain aspect of this innovative approach and one on which the success of the project hinged. In short, if students were reluctant to invest in viewing a video electronically delivered to them for perusal at their convenience, the project and feedback would be a huge waste of time for all concerned. While we were mindful of the findings of Carless (2006) and Mutch (2003) regarding the apathetic piles of unreturned assignments that lie awaiting collection at the close of each semester and the disappointing sight of students looking only for assignment marks and not reviewing feedback when assignments are collected, we remained hopeful that the medium switch could have the desired effect.

Pleasingly 75% of students declared that they had spent more time reviewing their video feedback than they would have done if written feedback was provided after the first video feedback was provided, which increased slightly upon receipt of the second video feedback. Having three students in every four investing more time in feedback was a hugely positive result for the research team and suggested that the students embraced the medium.

Personalization of Feedback

The research team explored an alternative medium whereby students were privy to an individualized live video recording of their work being assessed with feedback in relation to the grade awarded and ways in which subsequent work could be enhanced. This provided them with an average of 1300 words of spoken feedback that was directly linked to video images of students’ submitted work being assessed. Those involved in providing feedback to large numbers of students would appreciate the comparative advantage of this generous level of detail above that typically provided by written feedback. Furthermore, the multimodal nature of the feedback provided also offers comparative advantages for visual and auditory learners above “unimodal” written or audio feedback.

Critically, assessors in this project found that the assessment and feedback process took no longer than if they were to provide the standard level of written feedback. Given the size of the cohort ($n = 111$), students were provided with the equivalent of in excess of 144,000 words of written feedback—a major task for even the most time-efficient and skilled assessors.

Understanding of Feedback

Having achieving the goal of engaging students with accessing feedback, we were keen to ascertain whether students had greater understanding of what was being conveyed. At the conclusion of the project students answered this resoundingly when 100% of students stating that their understanding of what was being conveyed via video feedback was equal to or greater than that derived from written feedback. Once again, three out of four students claimed that they “completely” understood what the marker was trying to communicate, which contrasts with Walker’s (2009) 30% of students lacking understanding of written feedback and Weaver’s (2006) 40% of students lacking confidence in feedback.

Application of Feedback

We also challenged students to utilize their video feedback to feed forward into their subsequent work—an assumption never to be presupposed by assessors. Frequently, at tertiary level, it may not be feasible for an assessor to follow the students’ journey in order to observe this. Students were asked if they considered video feedback more or less effective than written feedback in enhancing their subsequent academic work. Once again, there was extensive support for video feedback with 97% of students believing it to be more positive in impacting effectively on subsequent work and in excess of 90% of students attesting to video feedback being more valuable than written feedback overall. In light of the results of other research in this area suggesting that many students are unsatisfied with the feedback facet compared with other aspects of their student experiences (Rodway-Dyer et al., 2009) it was particularly pleasing to discover that our results contrasted with this and demonstrated that students found the feedback of value and relevance.

Feedback Preferences

As we inhabit the student-centered paradigm of tertiary learning, it should also be noted that students expressed a clear preference for video feedback over all other feedback modes, offering a definitive vote to shift from current modes of feedback. That said, there was little impact (positively or negatively) on the grades

obtained in the unit used in this research. A successive research venture could certainly benefit from following students through subsequent academic assignments. Fellow advocates of video feedback Thompson and Lee (2012) also questioned the impact on subsequent grades from video feedback, and while this was not the focus of this study, it remains worthy of further investigation.

It would appear that the preference of students in this research mirrors the work undertaken by Crook et al. (2012), who found that 80% of students liked video feedback; in the case of our study, in excess of 90% stated this preference. It may be that the individualized feedback provided in the present study may account for this difference, since Crook et al. (2012) identified that 17% of students reported dislike of video feedback that was “generic” or that they deemed impersonal. It appears, therefore, that the individualized feedback may serve to increase student engagement.

Future Directions

Given the students’ clear preference for online video feedback, it would appear prudent to explore ways in which this could be more widely used in tertiary education. Based on our experiences, there are a number of factors that contribute to the provision of effective video feedback. It is essential that staff be provided with sufficient training to ensure that they can work with confidence, and that the required software, hardware and technical support is readily available. We also feel that the use of a highly structured assessment rubric allows the marker to provide detailed and specific feedback to students for each of the assessment criteria.

Future research could look at the viability of expanding the number of staff involved in providing this type of feedback. Further research is needed to identify other benefits and limitations of online feedback, such as whether it can be used to improve the moderation of assessment in courses run across several campuses or locations. It also remains to develop a flexible, time-efficient, and transferable model of video feedback that can be implemented in a variety of settings.

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