The Case of Screencast Feedback: Barriers to the Use of Learning Technology

Bill Soden

The University of York

Corresponding author: bill.soden@york.ac.uk

Abstract

Screen capture tools are increasingly used to enhance learning in higher education, and the use of such tools to provide feedback to students has been enthusiastically supported by some, with early studies indicating its potential in terms of richness, in-depth explanation and its personal style for building tutor-student relationships. Despite this support, however, and the availability of increasingly user friendly software, to date there does not seem to have been a major take up of the screencast delivery mode of feedback in Higher Education. This article summarises earlier research and presents findings from a small-scale interview study of academic staff in a northern UK university. These findings relate to key barriers to technology uptake, principally the time to learn issue, along with institutional constraints, but they also point to factors relating to the nature of feedback itself within a dominant research-led university culture.

Keywords: screencast feedback, barriers to uptake, formative feedback, time investment, engagement, relative advantage, tutor-student relationships, institutional culture

ISSN: 2044-3315

Introduction

Feedback is widely recognised as potentially vital to a student's development and progress (Bloxham & Boyd, 2007; Hattie & Timperley, 2007; Nicol, 2006), but across UK higher education it is consistently highlighted as an area in which students feel dissatisfied and institutions need to improve. The National Student Survey results for assessment and feedback have consistently been lowest of the seven question themes in the survey (Ipsos Mori, 2016) .

The principal mode for feedback in higher education tends to be in the form of written end comments or comments in the margins, often referred to as on-script annotations. Both of these forms of written feedback have their drawbacks. While on-script comments located with problems in the actual texts carry the potential for far greater depth of explanation, handwriting legibility reduces their impact (Higgins et.al. 2010; Robinson et.al. 2011; Tian & Lowe, 2012). Summary comments meanwhile, coming at the end of a piece of work, tend to be tersely written, mark-focused and unsuited to providing the depth of explanation that students require to close the gap between current and expected performance. Research focusing on the nature and quality of written feedback comments has highlighted a high degree of variability and inconsistency in terms of tone and style, with the danger of repeated negative or critical feedback serving to reinforce low self-esteem and low motivation in poorly performing students (Juwah et.al. 2004; Värlander, 2008; Wingate, 2010). Indeed, the importance of a personal relationship and the development of trust is argued to be central to engaging students with their feedback (Boud & Molloy, 2013; Bryson & McDowell, 2008; Rowe, 2011). One implication from these research findings is the need for alternative modes of feedback to replace or complement written feedback.

Screencast Feedback-Potential for Formative Feedback

Two alternative forms of feedback delivery, audio and screencast feedback, have emerged as potential technological facilitators of a more dialogic feedback process, particularly when used in formative feedback. Audio feedback has been demonstrated to provide some solutions to problems of timing, quality and detailed feedback (Lunt & Curran, 2009). A number of studies have shown that audio feedback can engage students through its personal, conversational style, providing a connection with the student that builds the tutor-student relationship of trust necessary for students to open up to feedback and engage in dialogue around it (Bond, 2009; Gould & Day, 2012; Savin-Baden, 2010). Indeed, it has been argued that effective feedback will only be possible if this kind of dialogue in higher education can be improved (Nicol, 2010).

Personal capture software has been used successfully at a number of institutions in the UK and the US to enhance learning in mainstream teaching and support (Morris

ISSN: 2044-3315

& Chikwa, 2013; Wakeman 2013) and it has been used in different contexts to provide screencast feedback (SCFB) to students. (e.g.,Jones et.al. 2012; Thompson & Lee, 2012). In this approach, academics record on-screen activity and a spoken commentary on a piece of student work, highlighting areas for development in subsequent work and assessments. The screencast approach has the potential to go beyond the benefits of audio feedback, since key examples in student texts on screen can be located during feedback commentaries, contextualising the feedback in ways not possible with audio feedback alone (Jones et.al. 2012; Stannard, 2008, 2010).

Most of the small number of studies now available also report very positive student responses to the personal nature of the feedback, and for international students or dyslexic students, the ability to re-play feedback as often as necessary has also been reported as beneficial (Edwards et.al. 2012; Jones et.al. 2012). Although use of SCFB does not in itself provide the dialogic solution mentioned above, there may be potential for this mode of feedback to encourage greater student engagement and more effective communication through stimulating students to seek dialogue (Jones et al. 2012; Thompson & Lee, 2012). The conversational tone of SCFB may also mitigate the 'face threats' implied by directive written feedback, reducing power differentials that inhibit development of relationships of trust between student and lecturer (Soden 2016).

The "enormous potential" for screencasting to enhance the student experience was highlighted in the pages of this journal several years ago (Wakeman 2013), although this did not make specific reference to feedback functions. And while use of personal capture tools for SCFB only emerged a little under a decade ago (see Stannard, 2008), one might expect this innovative idea to have become more embedded in higher education teaching practices; the paucity of research studies on this approach seem to suggest otherwise. Despite using and promoting the approach since 2012, I have not been aware of much uptake within my own department or in the wider university context. Indeed, the research referred to above has been characterised by reports on isolated examples of use in distance learning programmes (Edwards et.al. 2012), or individuals working within language education contexts (Soden 2016; Stannard 2010; Séror 2012; Harper.et.al. 2012).

It is also clear that SCFB is more often used for formative than summative assessments. A recent study on technological interventions to support assessment feedback made no mention of this approach (Glover et.al.2015), but it was clear that summatively assessed work provided the context for that study. If SCFB is more difficult to use for summative assessment, this in itself may partially explain its low uptake. What is clear is that the research to date tends to focus on the potential of the approach and positive student response to video commentaries, but there is very little appreciation of the factors that could be inhibiting uptake and wider use in higher education.

ISSN: 2044-3315

In order to frame any consideration of constraining factors upon uptake of SCFB in universities an obvious place to begin is with research relating to barriers to technology innovation more generally within the university sector. Surveys relating to the adoption of ICT in educational settings, for example, tend to highlight factors such as teacher confidence and competence, or access to resources (Bingimlas 2009), but these focus very much on school settings.

An early study of motivations for staff innovation in 15 UK Universities carried out by Hannan (Hannan et.al. 1999) reported innovation to be largely an individual practice motivated by a commitment to improving student learning. These findings were supported by Tuck's interview based study of 14 teachers' feedback practices in six UK universities (Tuck 2011). Tuck found that "teacher-led innovations were often small-scale and sometimes short-lived, and depended on time, resources and teachers' personal priorities" (p.11). A study by Butler and Sellbom in a US university context surveyed 125 academic staff (Butler & Sellbom 2002), focusing on five principal barriers to adopting technology. These barriers were: 1) reliability; 2) knowledge of use; 3) belief in the technology's value in improving teaching and learning; 4) difficulties in use; and finally 5) institutional support.

Another perspective on likely barriers to uptake of screencasts for feedback is provided by work on diffusion of innovations. Rogers, a pioneer in this area, posited five factors influencing likelihood and rate of adoption of an innovation (Rogers 2003): *relative advantage* over other options for specific tasks, which is effectively barrier three above in the Butler and Selbom findings; *compatibility* with users' practice and beliefs; *complexity* - or difficulty in use or understanding the value of an innovation, a factor relating to barrier four above; *trialability* or the opportunity for users to easily experience use of an innovation*; observability,* which relates to how widespread and visible the use of the innovation is in others. These five characteristics provide clear explanatory potential, but focus on the innovation itself, rather than the teacher or the institution.

The wider context in which innovation takes place provides the backdrop for the way both teacher factors and those relating to the technology itself are played out. Shneckenberg's (Schneckenberg 2009) conceptual study takes a much wider view of the problem of innovation in higher education. He highlighted the constraints on adopting technology enhanced innovation imposed by the habits and motivations of academic staff and long term structural constraints arising from cultural values in academic communities. The latter refer to the way in which lecturers' motivations are influenced by being part of autonomous faculties which militate against institution wide strategies, and also to the research focus of universities, which leads to tension with teaching functions. These various perspectives may be useful, then, in providing different lenses to make sense of teachers' experiences with use of the innovative screencast feedback approach.

ISSN: 2044-3315

Study Aims

The aim of the small-scale study reported here was to explore a small group of university teachers' experiences and perceptions on the use of the SCFB approach. The study was carried out via interviews with a small group of teachers already engaged in different ways with SCFB.

Two specific research questions inform the study:
1. What do university teachers' experiences of using screencast feedback tell us about the barriers to its wider uptake?
2. What do the experiences of teachers in this study tell us about the way screencast feedback might be better used and promoted in higher education?

Method and Procedure

A qualitative interview based approach was used to engage with individual teacher experiences of SCFB. Six lecturers / teachers were selected for interviews, based on both a convenience and purposive sampling approach. The study required participants with some knowledge of and experience with SCFB, hence the purposive sample; the participants were identified as having used the SCFB approach at some point in the previous two years, or having expressed an interest and intention to do so. The participants were drawn from three different departments, Education, Language and Linguistics and Social Policy and Social Work. A semi-structured interview approach was taken to explore how these teachers had become attracted to SCFB as a mode of feedback, their experience of using it and their views on barriers to wider uptake. The interview method can provide an explanatory device to help identify variables and relationships (Cohen.et. al. 2011); a semi-structured interview format was chosen as it can be relatively informal and relaxed to allow the interviewee to enlarge freely and openly on responses. The interview schedule (see Appendix A) also ensured coverage of the same main areas with all respondents, while varied prompts and probes were used to explore individual participants' experiences in more depth.

The methodology adopted here was based on the notion of interviews as social encounters involving a co-construction of accounts, which acknowledges inevitable issues around the researcher role and the nature of the data collected. My role as researcher was that of an engaged insider rather than an objective, disinterested observer, and the relationship with participants as colleagues or collaborators allowed for an easy rapport, encouraging relatively frank and open views.

Data analysis was largely based on an inductive content analysis approach within the grounded theory tradition (Marshall & Rossman, 2011). This involved an iterative reading and comparison of interview transcriptions to establish initial coding, followed by a search for key themes. In addition, a concordance tool was used a lens to highlight similarities and differences in the data relating to responses to initial

ISSN: 2044-3315

expectations of SCFB. While the analysis was mainly 'semantic', assuming a realist view of interviewees' accounts linking experience to meaning (Clark, 2006), it also involved some attempt to focus on the socio cultural context in which these accounts were provided. The small number of participants and the different contexts in which they applied SCFB meant that 'keyness' was not based on prevalence alone, but rather explanatory power in relation to the focus of the key research questions. Member checking was later carried out with several of the participants to verify accuracy of the accounts reported in the final analysis.

Ethical procedures required by the University were followed, with information sheets and consent forms sent to the participants assuring them of anonymity and protection of their identities in any published output. The interviews, which took 15-20 minutes, were conducted by myself at times and places convenient to the lecturers, normally within their own offices. Interviews were digitally recorded with the consent of the lecturers and were transcribed later.

Findings and Discussion

Practice

Table 1 shows that while six tutors had used SCFB at some point, they used the approach slightly more often with postgraduate students, and where numbers were given, they were used with small groups. The tasks on which the feedback was given were all formative in nature and also relatively short.

Table 1. Screencast feedback-participant practice

TUTOR	DEPARTMENT	USE OF SCFB	TARGET GROUP	TASK +LENGTH (words)	SOFTWARE TOOLS	VIDEO LENGTH
A	LANGUAGE AND LINGUISTICS	✓ Not currently	UG Yr2	Formative 600	Screen cast o-matic (SCOM)	30mins+ Later attempts= 5 mins
B	LANGUAGE AND LINGUISTICS	✓ Not currently	UG Max 16 Year 2/ Final year	Formative 600	Camtasia Echo360 VLE tool	30-60 mins Later attempts= 5 mins
C	LANGUAGE AND LINGUISTICS	✓ Not currently	1 UG assignment	Formative	SCOM	15-20 mins
D	EDUCATION	× [considered for future]	PG 6-8.	Formative Chapter drafts	N/A	N/A
E	SOCIAL POLICY AND SOCIAL WORK	✓ *Currently*	PG 11-14	Formative 500	Camtasia	5 mins
F	SOCIAL POLICY AND SOCIAL WORK	✓ Not currently	PG 10.	Formative 500-800	Camtasia	2-4 mins

ISSN: 2044-3315

G*	EDUCATION	✓ *Currently*	PG 11-20	Formative 1000 +Draft chapters	Camtasia SCOM Snag it	5-6 mins

*The author's details

An important point to note from Table 1 is the variable video length, with tutor A initially creating 30-minute videos, tutor C recording 15 minutes of video, but others recording more manageable 5 minute videos. I have included my own data in the table as tutor G for purposes of comparison. I had been using SCFB since 2012 for formative task feedback in taught modules on a Master's programme, and also more occasionally for feedback on dissertation drafts.

The choice of software tool varied tutor to tutor, with an even split between use of Screen-cast-O-Matic (SCOM) and Camtasia, though tutor B later used Echo 360, an in –house tool in the Blackboard version of the VLE. I had used Camtasia and Echo 360 but was using Snag-it software at the time of the interviews. What is most revealing in the table, however, excluding myself, only one of the participants was a current user of screencast feedback, a finding that justified the focus of this study on perceived barriers to its use.

Expectations

Although my own first contact with SCFB was through reading an article (Stannard 2010), most tutors reported that they found out about the SCFB approach via colleagues, and four of the six participants were also influenced to follow it up after attending Learning and Teaching Conferences:

I talked about it with colleagues and went to the workshop in University X, I was interested and the workshop gave me the confidence - originally I thought it was quite complicated,
I remember thinking, oh actually this is quite easy. (Tutor B)

I found out via tutor E, and from the 2012 Learning and Teaching Conference….because we work with students at a distance, I'm always on the lookout for ways we can diversify how we are communicating with them. (Tutor F)

When asked about features of SCFB that attracted them, tutors focused mainly on their hopes and expectations for more effective feedback, but expected this to be achieved in different ways. Figure 1 shows how the words that follow 'more' in the responses around this question highlight the range of expectations for SCFB feedback. Specific expectations were voiced around the detail it could provide and its explanatory nature. Only one mention is made of each of the expectations that it would be more memorable, more user centred, more engaging or more immediate than traditional written feedback.

ISSN: 2044-3315

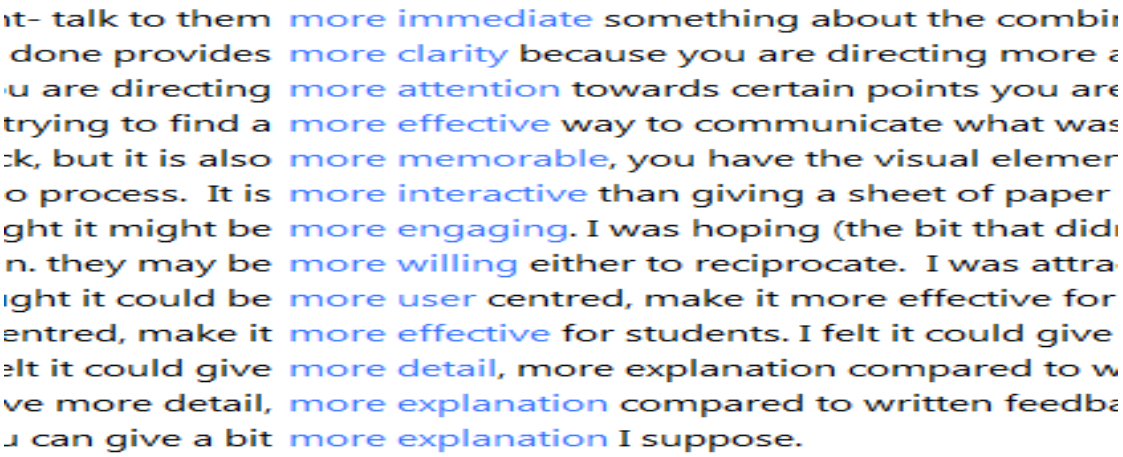

Figure 1: Attraction of SCFB-concordance lines

Several tutors referred to the desire to find a more effective form of feedback than traditional written forms:

We all struggle with written feedback, we do loads of it, we're not entirely convinced it gets read or digested, so I thought it might be more engaging. (Tutor E)

…because they heard my voice, they could see the screen, they may be more willing to reciprocate. (Tutor F)

I was trying to find a more effective way to communicate (Tutor B)

What emerged was a dissatisfaction with existing feedback modes and a desire among all the participants to improve their feedback using an innovative approach. Further analysis of interview responses revealed a number of themes relating to the way the technology was used, the context in which it was used, the nature of the technology and the nature of feedback itself within the wider university context.

Mode Purpose and Context

Tutor B, working with language students, had begun by making lengthy videos, and though she recognised that "students loved it…" when she gave detailed feedback with many corrections, she later adopted a more practical approach with a shorter, more time efficient format. Even with this more focused approach, the screencast mode did not always seem appropriate for her feedback on language:

I had some very good formative essays in year two, but if I go to some others where there are mistakes every other line, it becomes too complex…the layers… for students it becomes difficult to accept. (Tutor B)

ISSN: 2044-3315

She also reflected on the fact that it did not seem to engage the students more effectively than traditional approaches.

What I wanted to achieve, student engagement, and students acting on the feedback… a screencast doesn't guarantee they're going to do it at all… (Tutor B)

Tutor A also used SCFB for language feedback, and after initially producing lengthy videos, she found a way to record more manageable five minute commentaries. A five-minute video has been recommended as a manageable length for students to deal with, and my own experience attests to this (Soden 2016). These shorter videos did not replace her traditional feedback, however, as she used her commentary as an 'add on':

I gave all the feedback I would normally give but I talked over it, annotating as I went along. (Tutor A)

Her reason for this approach seemed to lie in the nature of the language studies subject matter, as she clearly differentiated her feedback from that standardly given on higher education programs**:**

When the focus is entirely on content and structure I think it would be very useful, for me, I can't ignore the linguistic content and that takes up too much time. (Tutor A)

This concern relating to providing language correction within feedback on language studies was echoed by tutor C, who referred to taking twenty minutes over "… a piece of work of 450 words…". This tutor gave feedback in English, although it was not her native language, and a confidence issue emerged in relation to recording a commentary in a second language:

I was aiming to do five minutes… but in reality, you know you are on the spot as an instructor… you need to be a figure which shows you are showing examples you are correcting you are guiding, but English is my second language and it makes me feel aware.
(Tutor C)

Thus, there seemed to be a common perception for these University language teachers that where correction of language errors was concerned, the screencast feedback mode was not always the most appropriate. Tutor B made this point very clearly:

What I think screencast feedback is really good for giving students a sense of what it's like to read the essay…if it becomes a language exercise like me marking the language and pointing out all the mistakes it becomes cumbersome (Tutor B)

ISSN: 2044-3315

It is clearly important to harness new technology in appropriate ways, and it is necessary to be clear about feedback purposes in order to match to modes of delivery. Clearly screencast approaches may not be appropriate for certain contexts and purposes.

Technical Constraints

References were made in the interviews to the need to overcome various technical problems. Tutor C was concerned about storing many videos:

The other thing that has deterred me is the storage - I can't remember what I used - thinking about storing hundreds of such videos…. (Tutor C)

In reality, with cloud storage and more and more space provided on cheap storage devices, storing videos does not need to be a barrier to use of SCFB, but perhaps university staff require more guidance and reassurance about such issues. Video commentaries for formative purposes should not require permanent storage. A potentially more serious technical barrier, however, was that of the time spent saving and distributing videos. Tutor F, for example, referred to this issue:

Saving, publishing, sending…that was actually the most time consuming bit, that sequence, remembering how I had to save it in a certain way, probably not that difficult but I did find it an overhead. (Tutor F)

This comment is perhaps not so surprising, given that Tutor F was using Camtasia, quite a sophisticated application that can take time to render videos. More recently produced software, however, with less functionality such as Screen-cast-O-Matic, or Snagit, can save videos within a fraction of the time they take to record. Both these tools allow saving in a range of formats, and the latter application, for example, also allows quick sharing in Google. Within the author's own institution, the discovery that digital annotation of documents could be carried out within the Gradebook feature in the Blackboard VLE system, with the option to attach an mp4 video file, led to a much faster and more efficient workflow, avoiding the need to send separate attachments to individual students This is evidence that technology is developing in ways that reduce time constraint issues of saving and distributing video feedback.

Tutor B used in-house software and referred to the valuable technical support she received from the e-learning team over a two-year period. She also made two rather obvious if important points about hardware availability and reliability:

Sometimes I have wasted time…the sound wasn't working and I didn't realise it… and you have to be in a certain situation- I do it at home so I'm not disturbed… (Tutor B)

ISSN: 2044-3315

Clearly, new or innovative technologies can challenge established patterns of work, or be unsuitable in certain work environments. Recording commentaries on a computer or tablet requires a silent space unsuited to busy open office arrangements, or a situation where one can be disturbed at any moment. On the other hand, institutional support and buy in for particular approaches and to support software tools is likely to be another key factor in lowering barriers to SCFB uptake.

The Time Factor

Tutor D had considered using screencast feedback with a number of Master's students requiring feedback on dissertation drafts but not always able to attend face to face meetings. However, her main reason for delaying her use of the approach seemed to revolve around the time costs in learning to use it:

I suppose there was the …oh I'm going to have to get my head around it, and that fact that I had a meeting coming up with them… oh well it will have to wait this time (tutor D)

Finding time to devote to learning a new approach was also referred to by tutor C, who explained how she was able to try out the idea because she had "… a lot of time.. as a part-time tutor, fewer personal commitments and that allowed me to dedicate more time to teaching practice".

Tutor F, who had used screencasts a number of times, made an important point about the nature of the feedback process and how long periods of time between assessment events can affect tutors' confidence and efficiency. She referred to having to 're-learn' how to use the software and how to carry out the process of SCFB:

It's an overhead to remember how to do it again, … …it acts as a barrier when you are desperate for time to do the teaching, that teaching is difficult to find time for, so it's always a bit of a problem. (Tutor F)

Tutor B also referred to the learning curve involved, and explained the need for particular motivation on the part of the tutor:

…you have to go through that phase of learning to use the technology… the learning curve requires an investment in terms of time, but also being interested… it's more than interest. What do I want to get out of it? …having a kind of a goal which is beyond just filling in a form because I've been asked to fill in a feedback form. (Tutor B)

ISSN: 2044-3315

The indication here is that tutors may require a special interest in feedback in order to invest time and effort to become familiar with screen capture tools and the new feedback work process involved. Tutor B later underlined this point:

I really wanted to provide better quality feedback. I was prepared to invest time… because I was interested in it. (Tutor B).

The time factor was Tutor E's immediate response to a direct question about the main barriers she perceived to her future use of SCFB, which she explained in terms of her particular approach to writing word comments before recording:

I do this rehearsal, I highlight the text first, I figure out what I want to say, so I'm already doing feedback if you like… what I'm doing is I'm putting Word comments in, I'm putting a summary comment at the top, and then I'm recording. So it's the extra task of doing a recording… (Tutor E)

In some ways, the comment above is suggestive of Tutor A's reference to her 'doubling' of feedback effort by adding a video to written feedback, but while adding a video recording to a set of written feedback comments would simply be a duplication of time and effort, tutor E's approach was more about assessing the script and preparing ideas to organize her commentary. The latter is also an approach recommended in some guides, as it helps the marker to decide on key points to emphasise and make best use of a five minute recording. In fact, commenting while reading for the first time could lead to problems, as tutor A found that her "…reactions were sometimes inappropriate - things would escape me that might be disheartening for the students".

For Tutor E, however, the need for 'rehearsal' was related to 'performance anxiety':

There's the issue around recording voice…and that's performance anxiety…a very real issue. It's very different to lecturing …you can stand on a podium and you can do it, it's gone, it's transient, you record it, it's there forever, people can listen to you over and over again, and I've noticed this with video as well because I film a lot of my colleagues' mini … and you know this performance anxiety is real, and it has to be addressed. The only way to get round it is to keep doing it until it disappears…just keep practising. (Tutor E)

This psychological factor could also be important for non-native English speakers using screencast feedback, as the earlier comment by Tutor C illustrated - teaching staff may not all be equally comfortable with recording their voice. If there is a performance anxiety factor operating, it is clear that only more confident, committed tutors willing to persevere with the SCFB approach are likely to adopt it in their armoury of teaching techniques.

ISSN: 2044-3315

The Observability Factor

Tutors' individual responses differed on the question of why they felt the innovative SCFB approach was still not widely used in HE. Sometimes they focused on issues within their own subject area, as in the language study context referred to above, but there was recognition that many lecturers were still unaware of the SCFB approach:

…not having it on the spectrum, I happened to be aware of it but if I hadn't come to your session or spoken to Tutor E, I wouldn't have been aware. (Tutor F)

Allied to the lack of awareness of the approach generally, Tutor F also referred to staff working habits as a barrier, stating "… patterns of work, you just get into a pattern." The point was also reinforced by a comment from Tutor D:

One of the barriers is bringing it to my mind, because it's only you coming here to talk about this that made me think about it… (Tutor D)

There is no doubt that teachers will often become fixed within patterns of work they are familiar with, and the issue with any innovation is to challenge this. For innovation to take place, however, tutors need to see the relative advantage of any new approach.

Measuring Gains

Perhaps inevitably, tutors referred to a need for evidence of gains from innovation.

…wanting to know more about what the benefits are. I didn't get a lot back from the students if you were to ask what were actual benefits, I haven't got a strong case to put to you… (Tutor F)

Tutor D echoed the comment above, explaining that a barrier to her adopting the approach was that she could not be sure of how her students "were going to take to it". For those who had used the approach, however, barriers lay more with a problem inherent in feedback in any mode, that of gauging students' engagement with the feedback it produced. In an extract from tutor B, highlighted earlier (see page 9), she expressed her concern that the screencast approach did not "guarantee" better engagement from students than with any other modes of delivery.

The issue of measuring engagement and gains was also taken up by Tutor E, whose reasons for continued use of SCFB lay in student satisfaction as some means to measure this:

ISSN: 2044-3315

They liked it and that's a good thing, student satisfaction. I know people poo-poo this a lot, student satisfaction is not as important as academic output gains, I disagree… I think they're worth doing because the students liked it. The key message that came through was, 'it was really nice to hear your voice, I felt that you were in the room, it was really motivating', so all this stuff about engagement and presence seemed to be borne out, but did it have any impact on their work? I have no idea, I really don't know... (Tutor E)

For a number of years, the literature on feedback in higher education has focused more on student response to feedback rather than teachers' feedback itself (Carless, et.al. 2011; Handley et.al. 2011; Evans 2013; Boud & Molloy 2013), seeking to explore how to engage students in acting upon their feedback and become self-regulating learners. Tutor B seems to be asking similar questions here, but realised that screencast approaches did not necessarily provide them.

The Institutional and University Context

The focus on formative rather than summative feedback in previous screencast studies was pointed out earlier, so the exclusively formative use of SCFB by teachers in this study was unsurprising. An obvious reason for this was voiced by one participant:

I guess the barriers are what we need to show an external examiner, would it be acceptable within our policy and procedures, accompanying written feedback… (Tutor D)

For many teachers in higher education, feedback efforts are likely to be focused on summatively assessed work, and accountability via examination boards and quality assurance from external examiners depends on compiling evidence from written texts, whether they be student products or lecturer feedback. Teachers may be fully aware of the value of formative feedback, but less able or willing to devote time to it given the current assessment system within which they operate. The low priority and limited time given to formative assessment has an impact in turn on university teachers' motivation to innovate when it entails investment of additional time and effort.

Indeed, the barriers to uptake of this feedback approach may not relate so much to the technology as to the wider university teaching and learning context:

It's not the technology, it's not the method, it's the fact that some people just don't engage with it... (Tutor E)

ISSN: 2044-3315

The tutor went on to discuss the status of teaching more generally within a research led university:

People's behaviour at work is defined to a large extent by the dominant culture, and we have a research based culture here. I think we lack a teaching led culture if I'm honest and I think if we were to do some of this work in universities where they're more teaching led, I think you're going to find a lot more engagement with this sort of stuff. (Tutor E)

The point made here reflects Schneckenberg's (2009) concern that attempts to innovate will be adversely affected "as long as the value of academic staff's research performance remains so much superior to the value of academic staff's teaching performance."

The Wider Context –Innovation and Feedback

The findings reported indicated that screencast approaches to feedback, when they had been tried by this group of teachers, were not always successful, and were evidence for Tuck's (2011) finding that teacher-led innovation in higher education was often short term and dependent on time and personal priorities. Where teachers persevered with the approach, they clearly held a personal commitment to improving feedback that would not be typical for all academics.

Rogers (2003) notion of 'compatibility' is also relevant to the variable uptake of SCFB within this small group of teachers. One of Rogers' key factors in diffusion of an innovation is that it must be compatible with users' beliefs and existing practices. Where lecturers feel that their existing feedback practices are satisfactory, they will clearly be less willing to consider innovation. However, it was noted that teachers attracted by the screencast approach can sometimes use it inappropriately, leading to discouragement. This argues for more training and a wider dissemination of good practice within universities around the approach through the provision of guides via case studies etc. which can help new users avoid common mistakes. But while improved training opportunities and resources are welcomed, it may be that the potential value of screencast feedback will not be easily tapped if a reluctance to change long standing feedback habits remains.

It is clear that becoming familiar with new technology such as that needed for SCFB demands an investment of time that it is not a once only effort, but rather a more time consuming add on to work practices involving a revisiting of workflows and software applications on a regular basis. To some extent this points to the problem of 'complexity' (Rogers, 2003), but it was noted that the recent development of easily accessible software tools has made it easier and quicker to record, save and share videos, thus lowering this potential barrier. The workload issue was raised in the Harper study of a foreign language learning context (Harper, et.al. 2012) but

ISSN: 2044-3315

they make the point that written feedback can be combined with video commentary if the former is reduced to avoid duplicating work. My own experience demonstrates that SCFB can be combined with more traditional approaches without necessarily demanding unrealistic inputs of time from the feedback provider (Soden 2016).

One important barrier raised in the interviews seems to relate to the idea of 'relative advantage' (Butler & Selbom, 2002) as teachers referred to the need for assurance that time spent experimenting with a new approach would yield better results than traditional approaches. Indeed, the need to invest time in adopting new technologies in teaching was a clear barrier for participants in this study; against a backdrop of lower returns for investment in teaching rather than research, and the more marginal role of formative feedback, the context in which SCFB is most effective, it is clear that this barrier will continue to be important.

To date, research on screencast feedback has not been able to provide definitive conclusions on its impact on students' final products and marks. However, investigating the impact of feedback in these terms is difficult if not impossible to carry out effectively due to the number of uncontrollable variables involved. Feedback is a two-way process, with a number of mediator variables for both giver and receiver (Evans 2013) which makes it difficult to provide causal evidence on how feedback on complex tasks is used by learners, particularly when subsequent tasks change, and when learner effort and motivation are also variable. Demonstrating the effectiveness of feedback remains an important challenge for research into assessment more generally, but it means that clear answers to teachers' questions on the final impact of SCFB on student marks are unlikely to be forthcoming.

Findings in this study seemed to support research showing a definite affective and emotional advantage provided by SCFB, a benefit that cannot be underestimated in light of the recent focus on the importance of the tutor student relationship for effective uptake of feedback (Boud & Molloy 2013). The teachers who had persevered with the approach referred to how students reacted positively to their videos (Tutor B), or reported on the value of tutor presence that it provided (Tutor E); the literature abounds with findings from student evaluations that support the way such feedback can lead to students' valuing feedback more highly and thus helps to build the tutor student relationship (Edwards et.al. 2012; Harper et.al. 2012; Marriott & Teoh 2012; Soden 2016). While lecturers are focused on improvement in terms of 'marks', however, this key relative advantage of screencast over written feedback may continue to be ignored, and future research might usefully look for more persuasive evidence on the impact of SCFB on tutor-student relationships and engagement. Such research could investigate ways in which this approach lends itself to improving the dialogic context in which feedback is given and acted upon. At the same time, a range of responses and differential engagement from students can result from factors beyond teacher control, which suggests a limit on the influence of the quality of our feedback or the means by which it is delivered.

ISSN: 2044-3315

The study reported here is very small scale, and exploratory in nature, so it is not possible to make strong claims and generalisations from it. One point it was not possible to consider is the possibility that teacher preferences for traditional hard copy marking may bias them against the screencast approach. A recent qualitative study in a UK university (Glover et al. 2015) involving 10 tutors across various faculties found a general resistance to electronic marking; teachers often find it more difficult to read and mark texts on screen, so resistance to digital marking in a more general sense could mean a reluctance to engage with screencast approaches, suggesting an interesting question for future large scale research studies to address.

Conclusion

Given the importance of feedback and the time teachers take to deliver it, perhaps it is unsurprising that many of us look for a silver bullet for feedback, which in reality no individual technological tool or approach can ever provide. Expectations that feedback via screencast commentary will provide more dialogue or impact significantly on student marks may be the result of such thinking. Participants in this small scale study also indicated, however, an understanding of the need to match feedback mode to purpose and context, and the point was made that flexibility in combining feedback modes is possible and desirable. Technical issues were mentioned, but developments in screen capture software and delivery systems suggest that these should not be major barriers to uptake of the screencast approach in future. More interestingly, the psychological issue of performance anxiety was raised, representing a less obvious barrier for some academics considering the use of such an approach. The need for more research that can identify the relative advantage of SCFB was evident from participant responses here, but the findings also indicate issues with the dominant assessment regime in UK universities which impact on feedback practices, reducing formative feedback opportunities where screencast feedback can best be exploited. Unless the lower status of teaching itself within research led institutions is addressed, investing the necessary time in learning how to use screen capture technology for feedback will continue to remain an unattractive option for many lecturers.

Acknowledgements

I would like to thank all colleagues who have collaborated with me in this project by agreeing to be interviewed, and particular thanks go to Jane Lund and Cathy Dantec for their collaboration and enthusiastic support.

ISSN: 2044-3315

References

Bingimlas, K.A., 2009. Barriers to the succesful Integration of ICT in Teaching and Learning Environments: A Review of the Literature. *Eurasia Journal of Mathematics, Science and Technology Education*, 5(3), pp.235–245.

Bloxham, S., Boyd, P. & Orr, S., 2011. Mark my words: the role of assessment criteria in UK higher education grading practices. *Studies in Higher Education*, 36(6), pp.655–670.

Bond, S., 2009. Audio feedback. *Audio*, (September). Available at: http://eprints.lse.ac.uk/30693/.

Boud, D. & Molloy, E., 2013. *Feedback in Higher and Professional Education: Understanding it and Doing it Well* . Routledge.

Braun, V., & Clark, B., 2006. Using thematic analysis. *Qualitative Research in Psychology*, 3, pp.77–101.

Bryson, C. & McDowell, L., 2008. A relationship heading for divorce ? Assessment , trust and student engagement. *Assessment and Engagement. HEA Conference Procedings*. Available at: http://www.brookes.ac.uk/aske/documents/bryson_mcdowell.pdf.

Butler, D.L. & Sellbom, M., 2002. Barriers to Adopting Technology for Teaching and Learning. *Educause Quarterly*, 25(2), pp.22–28.

Carless, D., Salter, D., Yang, M., & Lam, J. 2011. Developing sustainable feedback practices. *Studies in Higher Education*, *36*(4), 395–407.

Cohen, L., Manion, L., Morrison, K., 2013. *Research Methods in Education*. Routledge.

Edwards, K. Dujardin, A., & Williams, N., 2012. Screencast Feedback for Essays on a Distance Learning MA in Professional Communication : An Action Research Project. *Journal of Academic Writing* ,2(1), pp.95–126.

Evans, C., 2013. Making Sense of Assessment Feedback in Higher Education. *Review of Educational Research*, 83(1), pp.70–120.

Glover, I., Parkin, H. J., Hepplestone, S., Irwin, B., & Rodger, H. 2015. Making connections : technological interventions to support students in using , and tutors in creating , assessment feedback. *Research in Learning Technology*, *23*(27), 1–13.

Gould, J. & Day, P., 2013. Hearing you loud and clear: student perspectives of audio feedback in higher education. *Assessment & Evaluation in Higher Education*, 38(5), pp. 554-566.

Handley, K., Price, M. & Millar, J., 2011. Beyond "doing time": investigating the concept of student engagement with feedback. *Oxford Review of Education*, 37(4),

ISSN: 2044-3315

pp.543–560.

Hannan, A., English, S. & Silver, H., 1999. Why innovate? Some preliminary findings from a research project on 'innovations in teaching and learning in higher education. *Studies in Higher Education*, 24, pp.279–289.

Harper, F., Green, H. & Fernandez-Toro, M., 2012. Evaluating the integration of Jing® screencasts in feedback on written assignments. *2012 15th International Conference on Interactive Collaborative Learning, ICL 2012*, 1736(November).

Hattie, J. & Timperley, H., 2007. The Power of Feedback. *Review of Educational Research*, 77(1), pp.81–112.

Higgins, R., Hartley, P. & Skelton, A., 2001. Getting the Message Across: The problem of communicating assessment feedback. *Teaching in Higher Education*, 6(2), pp.269–274.

Ipsos Mori, 2016. The National Student Survey. Available at: https://www.ipsos-mori.com/researchspecialisms/socialresearch/specareas/highereducation/nss.aspx [Accessed September 10, 2016].

Jones, N., Georghiades, P. & Gunson, J., 2012. Student feedback via screen capture digital video: stimulating student's modified action. *Higher Education*, 64(5), pp.593–607.

Juwah, C. MacFarlane-Dick, D., Matthew, B., Nicol, D., Ross, D., & Smith B. 2004. Enhancing student learning through effective formative feedback. *Higher Education*, June(68), pp.1–41. Available at: http://www.heacademy.ac.uk/resources/detail/resource_database/id353_effective_formative_feedback_juwah_etal. [Accessed July 12, 2016]

Marriott, P. & Teoh, L.K., 2012. Using Screencasts to Enhance Assessment Feedback: Students' Perceptions and Preferences. *Accounting Education*, 21(6), pp.583–598.

Marshall, C. & Rossman, G.B., 2011. Designing Qualitative Research, 5th ed. Los Angeles ; London: Sage.

Morris, C. & Chikwa, G., 2013. Screencasts: How effective are they and how do students engage with them? *Active Learning in Higher Education*, 15(1), pp.25–37.

Nicol, D.J. & Macfarlane-Dick, D., 2006. Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), pp.199–218.

Nicol, D., 2010. From monologue to dialogue: Improving written feedback processes in mass higher education. *Assessment & Evaluation in Higher Education*, 35(5), pp.501–517.

Rogers, E., 2003. *Diffusion of innovations* 5th Edition. New York: Simon and Schuster.

ISSN: 2044-3315

Rowe, A., 2011. The personal dimension in teaching: why students value feedback. *International Journal of Educational Management*, 25(4), pp.343–360.

Savin-Baden, M., 2010. The sound of feedback in higher education. *Learning Media And Technology*, 35(1), pp.53–64.

Schneckenberg, D., 2009. Understanding the real barriers to technology-enhanced innovation in higher education. *Educational Research*, 51(April 2015), pp.411–424.

Séror, J., 2012. Show me ! Enhanced Feedback Through Screencasting Technology. *TESL Canada Journal*, 30(1), pp.104–116.

Soden, W., 2016. Combining screencast and written feedback to improve the assignment writing of TESOL taught master's students. *The European Journal of Applied Linguistics and TEFL*, 5(1). pp.213-236.

Stannard, R., 2008. A new direction in feedback. *Humanizing Language Teaching*, (6), pp.1–11.

Stannard, R., 2010. Using Screen Capture Software in Student Feedback.(16 November 2010). Available at: http://www.english.heacademy.ac.uk/explore/publications/casestudies/technology/camtasia.php. [Accessed September 15, 2016]

Thompson, R. & Lee, T., 2012. Talking with Students through Screencasting: Experimentations with Video Feedback to Improve Student Learning. *The Journal of Interactive Technology & Pedagogy Issue 1,* pp.1–16.

Tian, M. & Lowe, J., 2009. Existentialist internationalisation and the Chinese student experience in English universities. *Compare: A Journal of Comparative and International Education*, 39(5), pp.659–676.

Tuck, J., 2011. Feedback-giving as social practice: teachers' perspectives on feedback as institutional requirement, work and dialogue. *Teaching in Higher Education*, 17(2), pp.209-221.

Värlander, S., 2008. The role of students' emotions in formal feedback situations. *Teaching in Higher Education*, 13(2), pp.145–156.

Wingate, U., 2010. The impact of formative feedback on the development of academic writing. *Assessment & Evaluation in Higher Education*, 35(5), pp.519–533.

Wakeman, C., 2013. The innovative use of screencasts in higher education. *Innovative Practice in Higher Education*, 1(April), pp.1–5.

ISSN: 2044-3315

Appendix A: Semi-structured interview questions

1. Where did you first hear about the screencast feedback approach?

2. What were the features of screencast feedback that seemed attractive and relevant to your feedback context?

3. Have you tried screencast feedback in any feedback events yet?

4. What do you consider the barriers to be which might prevent you using this approach in future?

5. What do you feel may be the reasons why this innovative feedback approach is still not widely used by other lecturers?

ISSN: 2044-3315